

THE BACHELOR'S DEGREE IN MILITARY ARTS AND SCIENCE: A FOUNDATION
FOR KEY LEADER DEVELOPMENT

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE
General Studies

by

Stuart P. Williams, Major, US Army
B.S., Lamar University, Beaumont, Texas, 2004
MBA, Trident University International, Cypress, California, 2012

Fort Leavenworth, Kansas
2016

Approved for public release; distribution is unlimited. Fair use determination or copyright permission has been obtained for the inclusion of pictures, maps, graphics, and any other works incorporated into this manuscript. A work of the United States Government is not subject to copyright; however further publication or sale of copyrighted images is not permissible.

REPORT DOCUMENTATION PAGE				<i>Form Approved</i> <i>OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YYYY) 10-06-2016		2. REPORT TYPE Master's Thesis		3. DATES COVERED (From - To) AUG 2015 – JUN 2016	
4. TITLE AND SUBTITLE The Bachelor's Degree in Military Arts and Science: A Foundation for Key Leader Development				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Stuart P. Williams, Major, U.S. Army				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Command and General Staff College ATTN: ATZL-SWD-GD Fort Leavenworth, KS 66027-2301				8. PERFORMING ORG REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for Public Release; Distribution is Unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT Professional military education in the Army University system should produce an undergraduate degree in a professional discipline of study, a Bachelors of Military Arts and Science. We must define the Army by the large bodies of knowledge that exist across the educational domains to train, certify and educate from within a profession. Degrees produced by the Army University system define the study of the profession, as we define ourselves, through more capable Leaders. The Army University produces leaders that perform at the tactical, operational and strategic levels of war; therefore, the manner in which we develop education for future challenges requires a deliberate and continuous approach before, during and after the first unit of assignment. In order to achieve a new standard of development for future leaders the BMAS is required as the foundation of the profession. The Bachelor's degree is a new educational standard to describe the approach for assigning and assessing the capacity to learn in the profession, defining the product of study and application.					
15. SUBJECT TERMS The Army Profession, Institutional Training Domain, Operational Training Domain, Self-development Training Domain, Warfighting Function, Training, Education, Army University, TRADOC, OE					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT (U)	18. NUMBER OF PAGES 87	19a. NAME OF RESPONSIBLE PERSON
a. REPORT (U)	b. ABSTRACT (U)	c. THIS PAGE (U)			19b. PHONE NUMBER (include area code)

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std. Z39.18

MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

Name of Candidate: MAJ Stuart P. Williams

Thesis Title: The Bachelor's Degree in Military Arts and Science: A Foundation for
Key Leader Development

Approved by:

_____, Thesis Committee Chair
Kenneth E. Long, D.M.

_____, Member
Allan S. Boyce, M.S., DML

_____, Member
Tim H. Civils, D.E.

Accepted this 10th day of June 2016 by:

_____, Director, Graduate Degree Programs
Robert F. Baumann, Ph.D.

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

THE BACHELOR'S DEGREE IN MILITARY ARTS AND SCIENCE: A FOUNDATION FOR KEY LEADER DEVELOPMENT, by Major Stuart P. Williams, 87 pages.

Professional military education in the Army University system should produce an undergraduate degree in a professional discipline of study, a Bachelors of Military Arts and Science. We must define the Army by the large bodies of knowledge that exist across the educational domains to train, certify and educate from within a profession. Degrees produced by the Army University system define the study of the profession, as we define ourselves, through more capable Leaders. The Army University produces leaders that perform at the tactical, operational and strategic levels of war; therefore, the manner in which we develop education for future challenges requires a deliberate and continuous approach before, during and after the first unit of assignment. In order to achieve a new standard of development for future leaders the BMAS is required as the foundation of the profession. The Bachelor's degree is a new educational standard to describe the approach for assigning and assessing the capacity to learn in the profession, defining the product of study and application.

ACKNOWLEDGMENTS

This work is the product of deliberate thought given to address the educational needs of leaders. The theory developed to address the developmental need is the combination of my assignment at the US Army Command and General Staff College (CGSC) and the Combined Arms Support Command (CASCOM). The time and focus given would not have been possible without the assistance and support of my family, key leaders, the CGSC staff, and the faculty of ALU. I am thankful for the time and commitment of my committee, Mr. Allan Boyce, Dr. Tim Civils, and Dr. Ken Long. A special thanks to my committee chair, Dr. Ken Long, whose time and discussion were essential to me in order to further explore the points of this work. His expertise was critical to developing the research approach of my thesis; moreover, his expertise is a critical part of developing the critical thinking for all of the member of my staff group toward a logistics operating environment.

My initial desire for this paper is to be read and discussed for the further development of the leaders that make our organization successful. The conclusions that I draw for education are substantial and were not considered half-heartedly. I believe education and training are both critical to the development of our individual capability. Degrees of education are the means to create the functions needed for organizational change. Subsequently, the desire that I have for this discussion is to develop the future educational environment for the leader from the tactical to the strategic level. A fully developed educational approach that considers the outcome for the individual from the environment sets the conditions for leader development.

TABLE OF CONTENTS

	Page
MASTER OF MILITARY ART AND SCIENCE THESIS APPROVAL PAGE	iii
ABSTRACT.....	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS.....	vi
ACRONYMS.....	viii
ILLUSTRATIONS	ix
CHAPTER 1 INTRODUCTION	1
Overview.....	1
Requirement for Educated Leaders.....	2
The Needs of the Profession	3
The Educational Gap	4
Proposal for the BMAS.....	7
Schools of the University.....	9
The Professional Body of Knowledge	10
Primary Research Question	11
Secondary Research Question	12
Assumptions.....	12
Definitions and Terms	13
Limitations	16
Conclusion	17
CHAPTER 2 LITERATURE REVIEW	19
TRADOC	20
The U.S. Army Capstone Concept.....	20
The U.S. Army Operating Concept	21
The U.S. Army Human Dimension Concept	21
Commissioned Officer Development and Career Management	22
The Army Profession	23
The Strategic Business Plan.....	24
A Critical Analysis of Joint Logistics in PME for Army Logisticians	25
MMAS	26
Higher Learning Commission.....	27
Bachelor's Degree from Military Institution	28
Bachelor's Degree from a Civilian Institution.....	29

Stakeholders	30
Conclusion	31
CHAPTER 3 RESEARCH METHODOLOGY	33
Introduction.....	33
Threats to Validity and Bias	35
Conclusion	37
CHAPTER 4 RESULTS OF RESEARCH AND ANALYSIS.....	39
Introduction.....	39
DOTMLPF.....	39
Analysis of Doctrine	40
Analysis of Leadership and Education Development	41
Analysis of Organization and Personnel	47
Analysis of Training	51
Analysis of Materiel and Facilities	53
Analysis of Validity of the BMAS	53
Suitable, Distinguishable and Complete	54
Feasible and Acceptable.....	56
Analysis of Stakeholders	59
Operational Approach.....	61
Closing the Gap	63
Conclusion	65
CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS	67
Conclusions.....	67
Change the Army Approach to PME	67
Issues and Recommendations	68
Final Thoughts	71
BIBLIOGRAPHY	74

ACRONYMS

ACC	Army Capstone Concept
AOC	Army Operating Concept
BMAS	Bachelors of Military Arts and Science
CAC	Combined Arms Command
CGSC	Command and General Staff College
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and education, Personnel, and Facilities
HLC	Higher Learning Commission
OE	Operating Environment
PBOK	Professional Body of Knowledge
PME	Professional Military Education
TRADOC	Training and Doctrine Command

ILLUSTRATIONS

	Page
Figure 1. Tipton's' Actual Scale of Leadership Education	5
Figure 2. Tipton's Needed Scale of Leadership Education.....	6
Figure 3. COAs to Implement the BMAS	8
Figure 4. Sample BMAS Course Layout.....	44
Figure 5. Cohort Educational Goals in PME.....	72

CHAPTER 1

INTRODUCTION

Concepts establish the intellectual foundation for Army modernization and help Army leaders identify opportunities to improve future force capabilities.

— TRADOC, *U.S. Army Operating Concept*

Overview

The development of concepts such as the Army Capstone Concept (ACC) and the Army Operating Concept (AOC) are essential to describe an Army in need of soldiers and leaders proficient in an operating environment (OE) filled with ambiguity. These concepts are translated into a doctrine that describes the future OE as the requirement for our leaders to possess character and competence. The professionalism needed to manage and lead in an ambiguous and dangerous world. The environment in which we now continuously operate is dynamically changing from defined to ambiguous. Our leader education programs must reflect the change from the defined to the ambiguous. The definitive nature of the OE is that it drives the requirement for leaders to adapt.

Reductions in manning will require the active force to get more capability out of every member of the force. The Army is projected to reduce to a total end strength of approximately 450,000 personnel; down from a recent peak end strength of 540,000 just a few years ago. It is critical for the Army to maintain readiness in the face of reductions in manning. The Army must remain ready to defend the nation.

Training and Doctrine Command (TRADOC) published the Army Capstone Concept (ACC) in December of 2012.¹ The ACC establishes a deliberate approach to provide solutions to meet capability gaps that impact our national defense across the domains of doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF). Effective DOTMLPF solutions are the only way to enable the warfighter because time and distance are the greatest concern of the OE. The Soldier and leader must be able to master uncertainty. The ability of the individual to understand and visualize the OE maintains the advantage of the warfighter to incorporate and leverage decisive action on the battlefield, and retain an eye for the enablers required to become more knowledgeable and skilled than ever.

Requirement for Educated Leaders

There must be a change to PME, the manner in which we build education for leaders and the individual Soldier is the approach to developing capability solutions that has to change. The Army meets the requirements for developing leaders through a combination of training and education. Training and education develop the skills and knowledge needed for the future operating environment, but there is a difference between both developmental domains. Put simply, training is an approach for the short term, a structured process designed to increase the capability of individuals or units to perform

¹ United States Army Training and Doctrine Command, TRADOC Pamphlet 525-3-0, *Army Capstone Concept* (Fort Eustis, VA: United States Army Training and Doctrine Command, December 2012).

specified tasks or skills in known situations to an established and measureable standard.²

The Army Education Process defines education as the development of "how to think."

"Education gives leaders and individuals the tools to think at all levels (organizationally and strategically) and to enhance leadership abilities along with knowledge and experience. This achievement occurs over a leader's career with increasingly complex education, especially in the areas of leader development and the military arts."³

Education is the long term development process of skills and knowledge for the application in an unspecified set of conditions. Therefore, if we identify solutions to fill capability gaps, but only address these gaps through the solution of training, there is not only a missed opportunity, but a failure of the profession. There must be a strategic look to the educational development of the leader that fills that capability gap, and builds on the education of that solution. Educated leaders can manage complexity, second and third order effects, avoid hasty solutions and ill-advised judgment.

The Needs of the Profession

Who develops training and education solutions for the Army? TRADOC is the architect of the Army, and through the Combined Arms Command (CAC), TRADOC integrates training and education as part of the DOTMLPF framework. The solutions that CAC develops primarily address training, leadership, and education capability gaps and deliver the solution in one of three development domains: the operational domain, the

² U.S. Army Training and Doctrine Command, TRADOC Pamphlet 350-70-7, *Army Learning: Army Educational Processes* (Fort Eustis, VA: U.S. Army Training and Doctrine Command, 9 January 2013).

³ Ibid.

institutional domain, or the self-development domain. To coordinate this effort, CAC has established the Army University as the lead for developing the solutions to capability gaps with a broad impact across domains. AU is intended to provide a more deliberate and systematic approach to the development, maintenance, instruction and improvement of the Professional Body of Knowledge (PBOK). However, I believe that the development of that PBOK will require a change to balance both education and training. The Army University must clearly address the separate role that education and training play in the learning environment. AU must be able to develop the PBOK needed for dealing with the ambiguity described in concepts and doctrine.

The Educational Gap

When does leader education occur? The Department of the Army Pamphlet, 600-3, provides the template of career timelines for all branches within the officer corps. Within each branch timeline, the pamphlet defines professional military education (PME) as the method that officers have to receive training and education for development. In preparing leaders for the next assignment and position, leaders are trained in the tasks that are the most critical to the next stage of their career. The training environment within the Army is currently completed as a task-based system to define the actions, conditions and standards required to complete the task assigned. However, training is not enough to build the capability of leaders. Training must be balanced with education to achieve holistic leader development. In order to identify the education needed during a leader's career, we can use the PME opportunities within the professional timeline, and then review the gap of education in DOTMLPF for leader development.

In a 2005 Army War College (USAWC) research project, Colonel Robert Tipton illustrated the development of leadership through training and education throughout the career of an officer.⁴ The perceived balance weighted toward training earlier in the career of the officer with the shift toward education later in the career was understood as the amount of influence required, and the impact of the leader at the tactical and operational levels. His research paper concluded that the scale of leadership development required more education for the officer earlier in their career than previously thought. In short he suggests that officers require more education than training from PME for the uncertainty of the positions that they manage.

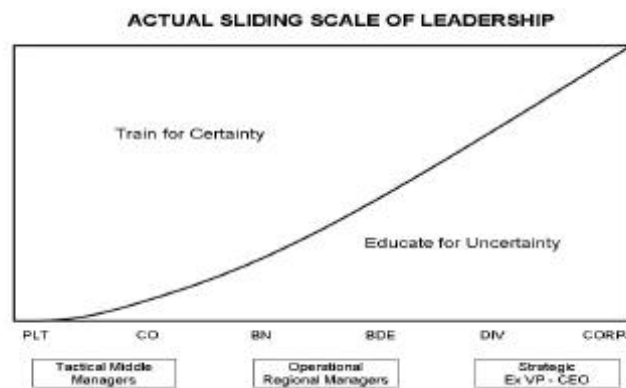


Figure 1. Tipton's Actual Scale of Leadership Education

Source: Robert A. Tipton. COL, USA, "Professional Military Education for the 'Pentathlete' of the Future" (Strategic Research Project, US Army War College, Carlisle Barracks, PA, March 2006), 7.

⁴ Robert A. Tipton. COL, USA, "Professional Military Education for the 'Pentathlete' of the Future" (Strategic Research Project, US Army War College, Carlisle Barracks, PA, March 2006), 7.

When is the leader going to be trained or educated within a timeline? The current issue is that the training domain receives the majority of the solutions, and education is not utilized as the more optimal solution. The educational system requires a formalized definition and a new standard. The standard for the educational development system can no longer be the certified completion of a task for training development through a single training course. The educational development system requires more definition, in a new standard, which clearly communicates the level of knowledge gained with a demonstrated capacity to learn. The standard for an officer's PME should be delivered in the format of a degree of study within the PBOK. In order to meet COL Tipton's needed scale of leadership, the approach indicates the need to educate for uncertainty.⁵

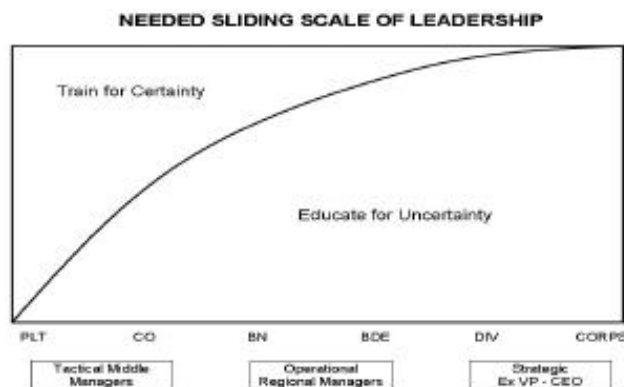


Figure 2. Tipton's Needed Scale of Leadership Education

Source: Robert A. Tipton. COL, USA, "Professional Military Education for the 'Pentathlete' of the Future" (Strategic Research Project, US Army War College, Carlisle Barracks, PA, March 2006), 7.

⁵ Tipton, 7.

Proposal for the BMAS

A solution is a Bachelors of Military Arts and Science (BMAS) for PME in order to clearly describe and analyze the level of professional growth required in our officers. The BMAS is a degree for the military professional that establishes the foundation in the PBOK and provides clarity with depth to the professional in the education needed to continue to grow. The BMAS is a degree that can be developed to meet the standards of accreditation for an undergraduate degree according to the Higher Learning Commission (HLC). The HLC is the accrediting body for the award of the Masters of Military Arts and Science (MMAS) through the Command and General Staff College (CGSC).

Officers must obtain a bachelor's degree as a part of the commissioning process, the BMAS could use those credits earned from an accredited institution to support the conferral of a BMAS. Civilian institutions accreditation would provide a foundation in the humanities and core studies to build upon the military discipline. The courses that comprise the BMAS would be determined by the degree granting institution, such as a Center of Excellence (COE) under TRADOC.

There are multiple courses of action to achieve this educational goal (figure 3). The first course of action is to use the basic officer leader course (BOLC) as the opportunity to complete the bachelor's degree. This is more defined later in chapter four by the number of hours required to complete the degree. BOLC would have a more distinct educational approach for the officer's education and require small blocks of training to focus on critical tasks. A second course of action would be for an officer's basic course to serve as the associate level education and combine with the captain's course for a BMAS. A third course of action would be to use BOLC as the associate's

degree and supplement the remaining educational development through an alternative opportunity. The time prior to the captain's course could be utilized to learn using online courseware and on-the-job-training (OJT) with conferral of the BMAS upon arrival to the captain's course.

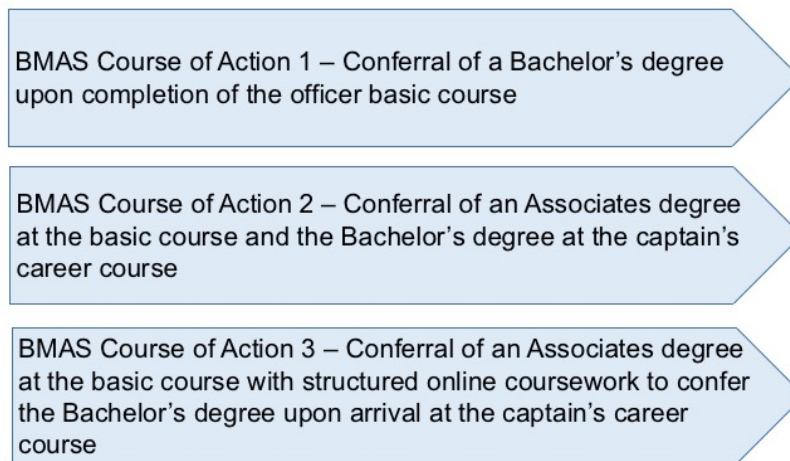


Figure 3. COAs to Implement the BMAS

Source: Created by Author.

TRADOC would apply the same standard of accreditation used to confer the MMAS from CGSC. The accreditation standards of HLC are defined as: a clear mission for the institution; institutional integrity for ethical and responsible conduct; teaching and learning institution with quality, resources, and support; teaching and learning institution with the ability to evaluate and improve; and institutional resources, institutional

planning, and institutional effectiveness.⁶ These standards are applicable to the BMAS as much as they are the MMAS. These standards are maintained by the structure that monitors, plans, and evaluates education; however, these will be examined further in chapter four of this thesis.

Schools of the University

What kind of bachelor's degrees would leaders receive? The BMAS degrees would be issued in the branch and/or function to build the capabilities needed by the military to perform decisive action as the joint land component. An example BMAS field of study could be codified in a BMAS in Movement and Maneuver Warfare, Intelligence Warfare, or Sustainment Warfare. The ability to specialize these degrees by branch or regimental affiliation would also exist as a BMAS in applied Infantry, Armor, or Ordnance studies. TRADOC capabilities development is performed in all of these branch and functional areas at COEs. The development of these educational capabilities can then be delivered through the schools that currently support the institutional domain of development.

The curriculum already exists to form the foundation in order to transfer to the BMAS. For the officer commissioned and attending school at the basic course, the opportunity exists to train and educate. The officer can complete all required training tasks as a course of study under the degree separate from the educational courses. The basic officer leader course is the initial opportunity to educate, and develop the PBOK as

⁶ The Higher Learning Commission, *Policy Title: Criteria for Accreditation*, (Chicago, IL: Higher Learning Commission, August 1992).

the foundation. At the grade of captain, the officer builds on the knowledge and experiences; what they know, and what they have done. An advanced course could serve as the capstone course needed to complete the BMAS, or even build toward a graduate degree in the warfighting function. Officers could then pursue a Masters of Military Arts and Science (MMAS) in Movement and Maneuver Warfare or Sustainment Warfare through the COE. The MMAS program through CGSC will remain the standard for developing the operational and strategic leaders the Army needs, but built on a foundation of military education that established the effort of individual development to educate and credential leaders. Attendance to the War College could then offer opportunity for a Doctorate in Mission Command and Strategic Studies, furthering the role as a senior officer to guide the PBOK.

The Professional Body of Knowledge

Does the PBOK already exist? The PBOK is maintained by every branch school and function within the Centers of Excellence under TRADOC. For the Ordnance, Transportation and Quartermaster schools, this would be found at the Army Logistics University (ALU) under the Sustainment Center of Excellence (SCOE). For the Infantry and Armor schools, the PBOK is defined as the Maneuver Center of Excellence (MCOE). Current courses and programs of instruction offered through the COE can be developed into degrees, and further guided holistically toward the branches and functions to meet warfighting challenges. Curriculum developed by one branch or function that is required or opened as additional educational growth for another branch is offered throughout the educational system. PME can then fulfill the life-long learning commitment by the Army University.

The Army University can establish the school functions needed to produce a degree and connect Soldiers to the university. After arrival to the basic course, the officer would be enrolled in the online program of the school as a student for the management of courses required for graduation. Each student will gain access to their school records and even participate in online courseware through a secure login. A record of the courses completed could be made available in the form of transcripts from Army schools to further professional development through institutional and self-development opportunities. Once the leader is admitted to the school, the individual would remain in the school system for future educational and training opportunities until they are required to transfer to another school, such as CGSC or USAWC, for PME. Enrollment into any of the schools under the Army University system would mean that student records, and developmental goals are clear and easily understood by the student and proponent leaders. We cannot simply train the leaders to be agile and adaptive by adding new tasks to train in a school environment. We must change the manner in which we develop people, not just for the requirements of today, but to build the capability needed for success in the future OE.

Primary Research Question

Should the Army University produce a bachelor's degree in military arts and science as a foundation for key leader development through professional military education?

Secondary Research Question

To achieve success in an expanded educational model for future leaders and answer the primary question, requires a broader understanding of the educational environment. A broad understanding is reached by describing the method for assigning proficiency in the PBOK, defining the discipline, and the product of that discipline. We will have to describe the requirement for a new standard of development; it is not enough to frame the need for this action of change. This thesis will frame the current state of education within the military profession as it compares to the existing career timeline and what it produces. The following questions will be used to develop an understanding and shape the approach.

1. What constitutes a BMAS?
2. What is the professional body of knowledge?
3. Can the university system produce an accredited baccalaureate (bachelor's) degree program with existing curriculum?
4. Can the Army maintain a PBOK for the associate's or bachelor's level in the current OE?

Assumptions

The following assumptions are necessary to develop the recommendation.

1. Future leaders will be required to think strategically and act tactically.
2. The future OE will remain sufficiently undefined and ambiguous which requires a long term educational solution.
3. The Army is competent to train for requirements that can be well defined.

4. The development of a university system will incur additional cost and be product driven.
5. The concepts in this research are valid through an approach to educate that can meet the criteria of a suitable, feasible and acceptable solution.

Definitions and Terms

The following definitions are a part of this thesis and are used to establish common understanding:

Army University: A university system within the United States Army to improve investment in education, transform academic institutions, and grow professional intellectual capacity for complexity. A learning institution for the Total Army to develop both military and civilian professionals.⁷

Education: A structured process to impart knowledge through teaching and learning to enable or enhance an individual's ability to perform in unknown situations. Instruction with increased knowledge, skill, and/or experience as the desired outcome for the student. This is in contrast to training, where a task or performance basis is used and specific conditions and standards are used to assess individual and unit proficiency.⁸ It is also developing an employee's general knowledge, capabilities, and character through

⁷ United States Army Training and Doctrine Command, *Strategic Business Plan for the Army University* (Fort Eustis, VA: United States Army Training and Doctrine Command, 16 March 2015).

⁸ Headquarters, Department of the Army, Army Regulation 350-1, *Army Training and Leader Development* (Washington, DC: HQ DA G3/5/7, 19 September 2014), 229.

exposure of learning theories, concepts, and information. Education is traditionally delivered by an accredited institution, and may relate to a current or future duty position.

Institutional training domain: The Army's institutional training and education system, primarily includes training bases, centers, and schools that provide initial training and subsequent professional military education (PME) for Soldiers, leaders, and Army civilians.⁹

Operational Environment (OE): A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander.¹⁰

Operational training domain: The training activities organizations undertake while at home station, at maneuver combat training centers, during joint exercises, at mobility centers, and while operationally deployed.¹¹

Self-development training domain: Planned, goal-oriented learning that reinforces and expands the depth and breadth of an individual's knowledge and self-awareness in the OE. Self-development complements institutional and operational learning to enhance the professional competence and meet the individual's personal objectives.¹²

⁹ Headquarters, Department of the Army, Army Doctrine Reference Publication 7, *Training Units and Developing Leaders* (Washington, DC: HQ DA G3/5/7, 23 August 2012).

¹⁰ Headquarters, Department of the Army, Army Doctrine Reference Publication 3, *Unified Land Operations* (Washington, DC: HQ DA G3/5/7, 16 May 2012).

¹¹ Headquarters, Department of the Army, Army Doctrine Reference Publication 7.

¹² Ibid.

The Army Profession: the work of experienced military service members certified in the ethical design, generation, support, and application of land power, serving under civilian authority and entrusted to defend the nation, the Constitution, and the American people. Professionals continuously develop expertise and use that expertise in the best interests of the profession to which they serve.¹³

Training: A structured process designed to increase the capability of individuals or units to perform specified tasks or skills in known situations. Process of providing for and making available to an employee, and placing or enrolling the employee in, a planned, prepared, and coordinated program, course, curriculum, subject, system, or routine of instruction or education, in scientific, professional, technical, mechanical, trade, clerical, fiscal, administrative, or other fields that will improve individual and organizational performance and assist in achieving the agency's mission and performance goals.¹⁴

Training and Doctrine Command (TRADOC): the United States Army Training and Doctrine Command is a command of the United States Army headquartered at Fort Eustis, Virginia. Formed as the result the STEADFAST Reorganization, or Operation STEADFAST, in early 1972 the project was to reorganize the post-Vietnam War army to increase efficiency and command and control. The effort culminated on 1 July 1973 with the establishment of TRADOC and Forces Command (FORSCOM) from the former Continental Army Command and the Combat Developments Command. The first

¹³ Headquarters, Department of the Army, Army Doctrine Reference Publication 1, *The Army Profession* (Washington, DC: HQ DA G3/5/7, 14 June 2015).

¹⁴ Headquarters, Department of the Army, Army Regulation 350-1, 239.

commander of TRADOC was GEN William E. DePuy. TRADOC was charged with overseeing training of Army forces and the development of operational doctrine.

TRADOC currently oversees 32 Army schools organized under eight Centers of Excellence. Each COE focused on a separate area of expertise within the Army (such as Maneuver and Sustainment). TRADOC schools conduct 1,304 courses and 108 language courses to train over 500,000 Soldiers and civilians each year. The courses include residential, on-site and distributed learning for soldiers, sailors, airmen and marines; international soldiers; and civilians.¹⁵

Warfighting function: A group of tasks and systems (people, organizations, information, and processes), united by a common purpose that commanders use to accomplish missions and training objectives.¹⁶

Limitations

This study primarily focuses on the company grade officer and the officer educational system. Within the officer education system, this study will focus only on the educational perspective to frame the product of the system from accession and commissioning to completion of the Captain's Career Course (CCC).

¹⁵ United States Army Training and Doctrine Command, "About TRADOC," 28 October 2014, accessed 15 February 2016, <http://www.tradoc.army.mil/About.asp>.

¹⁶ Headquarters, Department of the Army, Army Doctrine Reference Publication 3, *Unified Land Operations*.

Conclusion

Can we fully define what we require from our leaders as they progress through their careers? We can complete the definition of the individual capability required by the leader. The Army doctrinally defines the profession, but must better describe the educational objectives to support our application of doctrine and validate the requirement to think critically. Time is our most critical resource, and as annual budgets shrink with each passing year, we are forced to make better decisions with the resources that remain.

We require a change in individual development that shifts from the task to function. This is the manner in which we must seek to build the relevance of leaders. The Army Operating Concept defines the manner in which we will build capability; this concept applies to the development of leadership capability as well.

The educational domain should be built against advancing the study of the professional military leader in a PBOK, and not relegated to refining existing educational and training objectives. Simply adding more training requirements to the learning environment is not a part of the solution. Inadequate training timelines are common in the current system. A shortfall in time coupled with a mix of educational and training objectives is a recipe for failure. PME in the Army University system should lead to the product of a bachelor's degree in the PBOK. We must define the Army as large bodies of knowledge across many domains that train, certify and educate from within a profession.

The degrees produced by the Army University system will define the discipline of study as we develop our professional career paths. The Army University and those charged to execute training will continue to produce leaders that perform at all levels of war. The manner in which we develop our education and training for future challenges

will require deliberate education in the tactical, operational and strategic levels before, during and after the first unit of assignment. The new approach directed toward a PBOK is to develop leaders in a more deliberate manner required for the level of war in which they find themselves; therefore, officers at the company level are not developed to become generalists or technicians, but practitioners in a field of study. With a complete set of professionally validated degrees that mirrors the educational paths of other professions, we can develop plans for leaders to be educated and trained with the requisite skill and knowledge in their assigned specialty. They can become students of their profession, someone who can contribute to the body of knowledge. Field experience can be used to supplement their formal education in the same manner that professions use experience to complete the certifications of their practitioners. The BMAS is needed to fill gap that currently exists between technical coursework in our proponent and branch schools and the graduate degree in the MMAS program at CGSC.

The next chapter will review the literature on the topics discussed in chapter one and provide an assessment of the significance of that material to this study, and will be followed by the methodology used for this thesis.

CHAPTER 2

LITERATURE REVIEW

The current Army has been framed from the conflicts in the Middle East. The military professional has seen the organizational response to persistent conflict and the friction that this conflict has on the individual and the organization. Fighting at the tactical, operational, and strategic levels of war in Iraq and Afghanistan redirected our approach from an operating perspective; which required leaders to know and build skills at the operational and tactical levels of war, with strategic implications.

The second chapter of this thesis describes the components needed to frame the analysis of the proposal for the BMAS. The frame of the BMAS is based upon a doctrinal requirement, in terms of what we require agile and adaptive leaders to be able to do, and the requirements of the profession to certify to a measureable standard. The BMAS fills a gap created by the Army concepts and in TRADOC doctrine. The requirements to educate leaders identified in the career of the Army officer are laid out in DA Pam 600-3. At the field grade level, the professional is able to develop and certify through the Command and General Staff School receiving the opportunity for an MMAS. The literature review will review the definition of the MMAS and where it fits in determining the professional grade of CGSS to certify the officer's level of mastery.

The literature review will then cover the MMAS as an accredited degree and briefly describe accreditation, and then transition to descriptions of the bachelor's degree from both West Point and the University of Michigan, two top engineering schools. These two schools were selected due to the need for comparison of a degree from a

military and civilian perspective. This literature and other key sources are reviewed for applicability to the topic of this study.

TRADOC

Training and Doctrine Command (TRADOC) published the Army Operating Concept (AOC) to define the manner in which the Army would perform Decisive Action as the land component of a joint force. The Operating Concept is nested in the Capstone Concept, which is a foundation for change and a key document for the Army as an organization. The operating concept serves as the guidance for the service to direct the change required to clearly identify the capability needed to meet the objectives of the land component command. Moreover, this new concept clearly defines the individual capabilities needed in order to meet the challenges of the OE. Defining the warfighter within the profession was next through the publication of the Army Profession, a doctrinal publication to support the implementation of the AOC.

The U.S. Army Capstone Concept

The Army Capstone Concept (ACC), TRADOC Pam 525-3-0, is a strategic document derived from the National Military Strategy. The concept describes what the future Army must do as part of the joint force to achieve the nation's strategic objectives. The description of the capability required by the Army is dependent on an enduring relationship to defend the national interests in a future operating environment. The ACC describes the constraints on the force from the fiscal perspective, but focuses on the required capability the Army will need in the future to enable the nation to prevent

conflict, shape the environment, and win the Nation's wars.¹⁷ The revisions and direction given in the Capstone Concept are the foundation needed to transition to the operating concept of the literature review.

The U.S. Army Operating Concept

In 2014, TRADOC published the Army Operating Concept, TRADOC Pam 525-3-1, to define the manner in which the Army would perform Decisive Action as the land component. The operating concept is a foundational document for the Army designed to provide the intellectual foundation for future force development, establish a framework for organizational and individual growth, and guide the designed implementation in a deliberate and synchronized manner.¹⁸ The operating concept serves as guidance for the service to direct change. As the agent of change for the Army, TRADOC developed the AOC to meet the challenges of the OE while clearly identifying the requirements and objectives of the land component.

The U.S. Army Human Dimension Concept

The Human Dimension Concept, TRADOC Pam 525-3-7, supports the Army Capstone Concept by focusing on the human component of the environment. The theory behind the human dimension is to build adaptability by providing a reference point in training and education to maximize performance through the identification, development,

¹⁷ United States Army Training and Doctrine Command, TRADOC Pamphlet 525-3-0, *Army Capstone Concept*.

¹⁸ United States Army Training and Doctrine Command, TRADOC Pamphlet 525-3-1, *US Army Operating Concept* (Fort Eustis, VA: United States Army Training and Doctrine Command, October 2014).

and optimal integration of capability.¹⁹ The Human Dimension discusses key topics for analysis such as Force 2025 and beyond, describing the operational context, and the manner in which the individual will be expected to meet the challenges of the OE. The key to the concept's initial success is early investment in the priority of leader development with a secondary investment shortly afterward in the modernization of the network to support the leader.

This concept supports the guidance of a fiscally constrained force through leaner processes, and then qualifies the approach of the Force 2025 as an Army that will need to be smarter, more lethal and flexible.²⁰ The most significant difference between the human dimension and other concepts is the direction of developing the individual Soldier and leader that performs in the OE, and not remaining fixated on the requirements for equipment, technology, or finite tasks performed by the force that is trained to the specific.

Commissioned Officer Development and Career Management

The primary shaping document for the officer corps is DA Pamphlet 600-3, Commissioned Officer Professional Development and Career Management. This document is the guide developed by the Army to ensure that officers receive the training and education required in order to focus the mix of skills, knowledge, and experience toward the positions of leadership throughout their career. Each proponent details the

¹⁹ U.S. Army Training and Doctrine Command, TRADOC Pam 525-3-7, *U.S. Army Human Dimension Concept* (Fort Eustis, VA: United States Army Training and Doctrine Command, 21 May 2014), 5.

²⁰ *Ibid.*, 6.

duty positions relevant for key leader development of the career by branch and function.²¹ And while this document does not fix the developmental timeline for all officers, it does look at the depth needed in each specialty through training and educational programs. Assignments do not guarantee success in the military as much as the performance within those assignments and the growth that the individual achieves. An important note about DA Pam 600-3 is that progression throughout the career is impacted by the ability of the officer to attend and complete educational requirements. Officers are further encouraged to pursue higher civilian educational goals, but not directed.

Completion of curriculum at the Army War College comes with the conferral of a Master's degree, but the graduate level of demonstrated proficiency is not required in PME prior to this school. The literature does not discuss the unwritten discriminator of promotion affected by not completing a graduate course of study prior to attendance at the Army War College. Resident attendance at the USAWC comes after what would be more than twenty years of military service in most cases.

The Army Profession

The Army Profession was released in June of 2015 by the Center for the Army Profession and Ethic. The Army Profession as an essential piece of doctrine describes the profession, the ethic, the trust, the service, the expertise, the spirit, and the stewardship that a professional Soldier must develop. Through the Army Profession, all Soldiers are

²¹ Headquarters Department of the Army, DA Pamphlet 600-3, *Commissioned Officer Professional Development and Career Management* (Washington, DC: Department of the Army, 3 December 2014).

charged as professionals to continue their commitment to maintaining the Army as a military profession. The review of the Army Profession considers the educational development of the Army officer toward competence and military expertise. Competence is defined as a key part of building trust in the profession with the other part being the development of character.²² The development of expertise is foundational to the profession as it ensures that the professional is able to perform the role with a high level of competence and proficiency. Military expertise is the demonstration of the professional's ability to develop expert knowledge and then apply that knowledge in order to demonstrate a level of certification in the individual and the organization.²³ In analyzing the view of the military officer as an expert professional, current doctrine implies that certification is performed and that the profession is able to develop a level of expert knowledge. If our leaders are experts in a profession, then it is defined by the current measure of our professional development, and through the completion of periodic courses in PME throughout the career.

The Strategic Business Plan

The recently published Strategic Business Plan for the Army University supports part of the position being discussed by describing the current Army education system as it is to adapt into the university system. The plan offers an overview of the ends, ways, and means that will make the Army University a guiding member of future leader

²² Headquarters Department of the Army, Army Doctrine Reference Publication 1, *The Army Profession*, 1-2.

²³ *Ibid.*, 5-1.

development. The business plan is supportive toward the current state of affairs for leader development by defining the relationships of the university to the existing learning institutions of the United States Military Academy and Army War College without addressing the complexity of the 21st Century security environment.

The AOC contends that the environment is uncertain and winning requires adaptive leaders, people who do well in uncertain situations with very complex problems. The business plan illustrates the requirement of the Army as one “to transform our institutional educational programs and produce agile, adaptive and innovative leaders across the Total Force.”²⁴ The development of education supports the founding of the Army University, but in legitimizing the position of the university, the business plan requires an educational product. Missing from the plan is a forcing function to focus the organization’s long term growth and force action across all cohort groups of the officer, noncommissioned officer, warrant officer, and civilian.

A Critical Analysis of Joint Logistics in PME for Army Logisticians

A review of a MMAS published in 2014 supports the point of the discussion for educating the officer or military professional for the long term successes of the organization. This thesis defines the absence of training and education for the officer in Joint Logistics Operations in JPME. If the goal of JPME is to prepare the officer for application in future positions, then the opportunities for the officer should at least be visible. The thesis focused the analysis of the officer developmental timeline on the

²⁴ United States Army Training and Doctrine Command, *Strategic Business Plan for the Army University*, 12.

aspect of the officer's career, the field grade officer developmental timeline. The author's conclusions suggest that, "The development of JPME is tailored to the general, cross-service, multi-branch officer." There is no time given to the officer prior that would prepare them for the challenges of the OE. The constraints of PME as a training environment are visible, "time available and funding also contribute to the availability of joint education, likely why warfighting function specific learning areas are not included in JPME. The Military Education Coordination Council provides for the inclusion of input from the field, service schools, and proponents to meet operational needs, but is tailored for the general officer."²⁵ The development of education is limited to the senior levels of officer development, but must be expanded to the development opportunities earlier in the career or concede that the officer is not required to receive the education requisite for the joint operating environment.

MMAS

The MMAS program at CGSC is founded on academic principle and legislative authority. "Legislation enacted by the 93rd Congress, 31 July 1974, authorized CGSC to award the degree, Master of Military Art and Science (MMAS). In March 1976, the College was granted accreditation as a master's degree-granting institution."²⁶ The program is not only a part of the PME structure for the military officer, but an

²⁵ Jennifer M. Dembeck, "A Critical Analysis of Joint Logistics Professional Military Education for Army Logisticians" (Master's Thesis, Command and General Staff College, Fort Leavenworth, KS, 2014), 90.

²⁶ U.S. Army Command and General Staff College, Graduate Degree Programs, "MMAS Program Information," Fort Leavenworth, KS, 5 May 2015.

opportunity to develop the body of knowledge and improve the individual's proficiency in the military science while further the understanding of the military art. "The Command and General Staff College (CGSC) student has the unique opportunity to earn a professional graduate degree in the discipline, military art and science."²⁷ CGSC does not confer the MMAS for all graduates of the curriculum. The student must apply to the program and complete the necessary requirements to be granted the degree upon graduation. A student receiving the MMAS degree has demonstrated the ability to perform the study needed for the degree and complete a rigorous course of study.

Military art and science is defined as the study of the development, operation, and support of military forces in peace and war and of their interrelationships with economic, geographic, political, and psychosocial power to achieve national objectives.²⁸

Higher Learning Commission

The Higher Learning Commission of the North Central Association of Colleges and Schools, the regional accrediting agency for the Midwestern United States is the accrediting body that certifies the MMAS in accordance with the Certifications and Standards of Accreditation for a Master's Degree.²⁹ A detailed checklist is used to ensure that all aspects of the university are reviewed for compliance with the accreditation standards of the HLC. The basic items that are reviewed for accreditation are the curriculum, the faculty, the institution and the student body.

²⁷ U.S. Army Command and General Staff College, Graduate Degree Programs, "MMAS Program Information."

²⁸ Ibid., 1

²⁹ Ibid.

Bachelor's Degree from Military Institution

The research focus is to determine whether or not the Army University should produce bachelor's degrees within the Army school system. The only current Army institution that produces a bachelor's degree is the United States Military Academy at West Point. In order to train officers, West Point must train to the same standards required for officers commissioned through officer candidate school (OCS) and the reserve officer training corps (ROTC). However, West Point offers a far more diverse capability to deliver education to the officers that graduate the institution ranging from engineering to liberal arts.

Originally founded to develop officers for Army service in the 1800's, the curriculum was guided toward the military science of engineering and how that would benefit a practitioner's ability tactically.³⁰ While the early academy was selective and political, graduation did not necessarily mean that an individual was developed as an expert in the field. As the school grew over the years, attendance to the military academy has met with an increased level of academic rigor and prestige as a curriculum that has developed some of the greatest military minds.

Degree components from West Point include an institutional, academic, military and physical requirement in order to graduate.³¹ For the purpose of this thesis, the academic requirements are the most significant due to the need to separate academic

³⁰ Lance Betros, *West Point: Two Centuries and Beyond* (College Station, TX: McWhiney Foundation Press, 2004).

³¹ US West Point Academy, *Class of 2016 Academic Program* (West Point, NY: West Point Academy, February 2016).

education from the military training requirement needed to prepare an officer for service in the first unit of assignment. In order to graduate from West Point academically: the officer must successfully complete or validate each course in the core curriculum, including the common core courses and a core engineering sequence or equivalent, satisfy the requirements of at least one major discipline of study such as engineering or history, and successfully complete 40 academic courses with a cumulative score of 2.00 or above described as the Academic Program Score Cumulative (APSC).³² The West Point degree program is flexible enough to allow students the ability to decide what degree they are going to pursue in support of their personal interests and professional careers in the U.S. Army.

Bachelor's Degree from a Civilian Institution

The University of Michigan (UM) is a nationally ranked engineering school, consistently in the top ten, and delivers a similar educational experience in areas such as Mechanical Engineering. A comparison of degree programs could be drawn to any other top engineering school across the country. The comparison of engineering schools is based on the understanding that West Point confers a degree in the same discipline of study to same standard and with a similar number of courses.

The components of an engineering degree from UM are very similar to West Point in that the degree requires the completion of core course work, but the major course

³² Ibid., 38.

of study only requires 12 courses, a total of 45 credit hours.³³ Out of the 128 credit hours needed to complete the bachelor's degree, about one-third involve the development of the professional body of knowledge. While the supporting coursework frames the development and maturity of the individual, there are still only 12 courses required to complete the study of Mechanical Engineering.

This description of the foundational study of a profession represents the “the iceberg of the curriculum,”³⁴ and is the part of the body of knowledge that we can observe and evaluate. The degree is the measure of the initial education required to enter into the larger body of knowledge. The individual contributions can return to the PBOK with an established foundation, a known point of understanding. Outside of the major course of study are the experiences and certifications required for the continued development of the profession.

Stakeholders

What do stakeholders stand to benefit from the BMAS? Stakeholders are defined as those that are involved in the university system or that stand to benefit directly in any way from the university system. Therefore, officers that will attend, are attending, or have attended any form of PME are stakeholders. This specifically addresses the junior officer and the timelines of attendance from commissioning until attendance at CCC.

³³ University of Michigan, Department of Mechanical Engineering. “Bachelor's Degree Program Requirements,” 2016, accessed 12 February 2016, <http://me.engin.umich.edu/academics/ugsh/bachelors>.

³⁴ Kenneth E. Long, D.M., Assistant Professor/Force Sustainment and Management, Department of Logistics and Resource Operations, Command and General Staff College. Received by author via discussion 17 February 2016.

With the focus at the initial training and education in PME, all officers are impacted by the results of this thesis and the recommendations of changes to the product of PME. Stakeholders are also those that have passed this point in their career and would be placed in a leadership position over the graduates of PME. The most notable, but not exclusive recipients of this position of leadership are those placed in battalion command and executive officer positions as well as the officers that will be assigned as instructors to teach and facilitate the educational process. Although not directly affected by the development of the BMAS, the noncommissioned officer corps will receive the indirect effect of working with and for the graduates of the program. Army civilians are also considered stakeholders in the university system, with emphasis on those that are or will be employed in the institutional environment. All members of the military will be impacted by this action, even in some small manner, but the stakeholders of the Army University system mentioned are those that will receive the results of the system almost immediately and then contribute to the sustainment of the system for the long term.

Conclusion

The review of the literature in this chapter described the components needed to frame the analysis of the proposal for the BMAS. If the requirement for agile and adaptive leaders in the Army is valid, then the BMAS fills a doctrinal capability gap. The BMAS fills the educational gap in Army concept, TRADOC doctrine, and the need for education throughout an Army officer's career. The ACC, AOC and Human Dimension all indicate a need for adaptability and agility. With these concepts applied to the previous definition of training and education, the answer seems clear. The requirement to certify professionals to a standard is a characteristic of a profession. The Army Profession

is not exempt, and should retain the education and certification of professionals through degrees offered in PME.

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

This thesis was prepared through the individual research methodology and supporting case study research, and completed through the performance of a qualitative assessment in order to compare emerging Army concepts with current professional education and degree standards. Concepts were analyzed to discuss the goal of the educational process to achieve the outcomes listed and then compared that to the stated level of education required to perform in the field or contribute to the professional body of knowledge.

The research methodology began with the definition of the requirement to educate officers and the educational gap that exists in that environment. This thesis proposed the solution to that gap in the form of the Bachelors of Military Arts and Science (BMAS) as the means to further the professional body of knowledge through a learner-centric approach that enables the individual to contribute to the growth of that discipline. By using the bachelor level of education, the development of curriculum and the improvement of the faculty that deliver the knowledge and skill are placed in better focus.

The body of knowledge and those charged with its care are defined as TRADOC and proponent schools. Centers of Excellence and schools are the recipients of the foundational concepts of TRADOC are then reviewed for applicability, namely the Army Capstone Concept, Army Operating Concept, and the Human Dimension Concept. These concepts were reviewed and then transitioned to the discussion of the capabilities

required in DOTMLPF design by focusing on the human aspect of the profession. These three documents complete the framework of individual development needed to illustrate the Army's needs for the future and the people that are needed to fight and win the nation's wars. The concepts also describe the total required capability of the individual Soldier.

The thesis methodology then focuses toward the manner in which the Army shapes the educational environment through the newly formed Army University. The frame of the current CGSC MMAS and typical bachelor's programs were compared for the possible development or application of curriculum. This focus is intended to determine the applicability of the BMAS to provide a new means of educational design, and to discuss the manner in which the curriculum designed could meet the objectives of education for the officer over the course of their career.

The research analyzes the career timeline of the officer, beginning with the commissioning source and the educational requirement to enter service. The method of expounding on this opportunity of the officer to receive education that they will benefit from for the remainder of their career. Analysis of the development of this BMAS is one that can be analyzed through DOTMLPF to pass the test of validity (adequate, feasible, and acceptable) as a proposal, while placing a perspective on the development of the degree through the lens of doctrine and stakeholders.

The proposal for the BMAS is for performance over the course of the company grade timeline from initial commissioning to the completion of the Captain's Career Course. The completion of the company grade officer time and the professional education received during that time is the opportunity to grow and transition toward education in

the operational art. Officers are required to complete a bachelor's degree in a discipline in order to receive a commission in the Army. By completing this action, the focus of the company grade officer is to develop the practitioner knowledge in the branch of service for study. Company grade officer time is then focused toward the product, the BMAS as the opportunity; the degree in their professional body of knowledge.

The focus disciplines of the case study will detail toward the education needed from tactical and operational levels of war. Once commissioned, the officer should then complete introductory level knowledge, and achieve a gradual improvement to the level of proficiency. The example described will be two fold in the historical examples of the commissioning from the United States Military Academy at West Point, having received a degree in mechanical engineering and how that would then transfer into a bachelor's degree as a function of their service.

Threats to Validity and Bias

There are a few issues that pose a threat to validity and bias of the research. In order to avoid the BMAS solution appearance of bias to achieve this goal, it is critical that the arguments counter to the BMAS be addressed.

If the officer is commissioned with a bachelor's degree, then why should the Army pay to certify another degree for the profession? West Point currently offers a bachelor's degree program. Should West Point develop a BMAS degree program? There are many courses of study that the officer can select toward the West Point academic program and in many respects this is comparable to the education received in civilian institutions.

Attendance at CGSC offers the field grade professional the opportunity to receive a MMAS without the BMAS. What knowledge and skill are you receiving through the BMAS to improve the profession? The MMAS is defined as “the study of the development, operation, and support of military forces in peace and war and of their interrelationships with economic, geographic, political, and psychosocial power to achieve national objectives.”³⁵ The MMAS is an accredited degree, but there remains a gap of foundational knowledge at the baccalaureate level, prior to attendance at CGSC. Without a foundational education the base of knowledge is inconsistent at best, and the manner in which it is received by the professional cannot be clearly defined or accounted.

There are threats to the validity of the BMAS from the fiscal perspective of determining the cost of change associated with possible recommended outcomes. If the costs are further determined to exceed the assessment of feasibility, regardless of the assessment toward acceptability or adequacy, then the results of this thesis could be considered invalid. For this reason, the discussion of cost will have to be explored further to fully determine the cost of a BMAS, so that the results are not skewed to reach a valid outcome based upon the preconceived monetary limitations.

Further threats to validity lay in the acceptability and adequacy (suitability) of the the BMAS. Should we require officers that have completed an undergraduate education to complete another course of undergraduate study? Furthermore, does the proposal answer all of the key points of leader development that exist in the three domains of PME. In response to the questions of feasibility, suitability and acceptability, the analysis

³⁵ U.S. Army Command and General Staff College, Graduate Degree Programs, “MMAS Program Information,” 1.

detailed in chapter four of this thesis addressed those questions with a look toward the doctrine that determines and fundamentally guides the professional body of knowledge.

The threats to the bias of the research performed are few, but revolve around the construction of the current learning environment. The key research question of this thesis is directed toward the educational aspect and viewed the training aspect of PME as periodic or episodic. A bias toward the current structure of PME could lead the research and analysis of the information gathered. A structural bias that will predetermine the outcome of any educational model to be the answer to the question and not give enough support to a training model to address the skills needed. While every individual requires different skills to perform their specialty, it is with the understanding of the operational environment that questions of whether there is enough education or training in the current learning environment. In order to prevent the research of this thesis from discounting the applicability of training, it is assumed that training and education coexist, and that neither one nor the other perform the function of leader development alone.

Conclusion

Through this type of research, the findings of this thesis should address the goal of PME to produce a more educated individual through the conferral of a degree in the discipline of study, or a more trained individual in the completion of courses throughout a career timeline. The answer to the questions of validity are not to be dismissed, but the detailing of the research method demonstrates the depth of the response needed to the question, and then connect that response to the system of leader development.

Stakeholders in the university system will ultimately decide whether or not the results of this thesis are valid and without bias. Stakeholders are primarily those

individuals that attend and receive the product of the learning environment in the form of professional development and educated officers that will initially make the determination of validity in the short term. However, in the long term the individuals that will determine the validity of the findings of this thesis are the individuals in key leadership positions of the university, both administrative and faculty, for they are the ones that will conduct the educational and training processes to confer a degree.

CHAPTER 4

RESULTS OF RESEARCH AND ANALYSIS

Introduction

The analysis of the thesis covered three areas. The first area of analysis for this chapter are the results of DOTMLPF analysis in which the capability gap of the BMAS was reviewed for application to professional military education. The second area is the determination of validity for the proposal of the BMAS degree conferral in PME. The third area is the results of stakeholder analysis. All three areas listed will raise issues that both contend or support the results. This chapter will also provide a list of the open issues that require resolution in order for the process to proceed.

DOTMLPF

The educational gap was reviewed from the perspective of the characteristics of the profession using current doctrine and concepts, and included the perspective of the established discipline of engineering as a benchmark. For the purpose of this study, the discipline of engineering was appropriate to use as a benchmark due to the historical significance of engineering in the founding of the United States Military Academy at West Point, and the view of Engineering as a profession with many characteristics similar to those of the military profession. The degree of study developed in using engineering demonstrates the measure of professional education and excellence required in the profession. A measure of education and excellence that is continual in nature, and requires a significant amount of science and art to fully understand. The direction of the profession of arms, as detailed in the ACC and the AOC, is that of the military

professional who performs the diverse missions assigned in an ambiguous OE. These Army concepts will challenge even the most well-rounded and trained professional to demonstrate the knowledge and skills gained over the course of their career. More importantly, the concepts of the Army profession demand that the professional Soldier differentiate between the skills and knowledge trained or learned.

Analysis of the literature reviewed in chapter two helps to shape the capability required by the Army of the military professional in two ways. First, the education of the military officer is a process of development from accession to commissioning, and continues throughout the career of the officer. Education is a key capability required to succeed in the future operating environment. Second, the product of the educational environment is the officer's capability to contribute to the growth of the professional body of knowledge. The officer is required to possess and demonstrate requisite and functional knowledge of the OE to understand the unknown.

Analysis of Doctrine

The analysis of the Army Capstone Concept described the constraint on the force in the fiscal perspective, but focused on required Army capability for the future to enable the nation to prevent conflict, shape the environment, and win the Nation's wars. "The fundamental characteristic of the Army necessary to provide decisive land power is operational adaptability, the ability of Army leaders, Soldiers, and civilians to shape

conditions and respond effectively to a broad range of missions and changing threats and situations with appropriate, flexible, and responsive capabilities.”³⁶

Adaptability is now a focal point, a desired characteristic of the individual to win in the future OE. How can adaptability receive the focus of development? The Army Capstone Concept generalized adaptability, and does not state where the organization and the individual would possess the ability to undergo change. The concept describes the environment, and not the individual required; so then, the leader must be the focus of the capability development process to address the requirement. Army concepts defer to leader development and the education required to understand the OE. The development of the BMAS would not require a change to the current doctrine to further develop the leader for the future OE.

Analysis of Leadership and Education Development

It is possible to address the future of leadership and educational development, implied from the analysis of doctrine, through DOTMLPF. Leadership and education is an opportunity for the individual to provide influence and support to another for the purpose of development through modeling. The following excerpt from the ACC identifies the capacity to contribute and the implication toward the discipline to which the individual could contribute. “Leader development and education programs must offer opportunities for all Army personnel to provide input into course content throughout their careers. Such input adds to the PBOK and utilizes the recent operational experience of

³⁶ United States Army Training and Doctrine Command, TRADOC Pamphlet 525-3-0, *Army Capstone Concept*, 11.

veterans as learning facilitators. Army leader development and education programs must account for prior knowledge and experience by assessing competencies and tailoring instruction to Soldiers' existing experience levels.”³⁷

The ACC describes the opportunity to contribute to the PBOK and how this must be sought after by the profession. This would indicate that learning is facilitated through shared understanding, and does not use the terminology of a training environment developed to mimic the previous conflict. Many training environments that support PME also support the use of training environments that mimic the tasks performed and the scenario experienced in a recent conflict. While this is a great opportunity to learn the lessons of past experience, focusing on the conflict of the recent past or even self-selecting the history that best fits the educational outcomes can prevent the education of learning from a purely historic or more holistic perspective. The assumption that the facilitator can duplicate the required experience with precision and consistency implies an amount of repetition only available in a controlled set of conditions. This repetition would then translate into a training environment with a known skill or knowledge dependent on the ability of the facilitator to replicate the desired condition. This is not education, but conditioning of the individual to perform a pre-determined action.

What is the comparison of the process of PME to the product of the educational environment? The focus on leadership and educational development is one aspect that the Army Capstone Concept communicates and supports through doctrine into leadership development. The ACC is a starting point for the way ahead and not the destination of

³⁷ United States Army Training and Doctrine Command. TRADOC Pamphlet 525-3-0, *Army Capstone Concept*, 22.

development. The growth of leadership and educational development requires the structure of an educational environment in the form of courses that can effectively capture the PBOK. The courses must be developed to remain adaptive enough to change with the OE.

The key observation from the review of the West Point undergraduate program, listed the number of electives required to achieve a degree, a “major requires the commitment of between 10 and 18 electives”³⁸. The program guide further defines each course in terms of academic hours and instructor contact hours. This formula could easily translate for an application to the current company grade officer PME timeline to determine the number of courses completed.

The examples of West Point and the University of Michigan illustrated the point of compatibility across bodies of knowledge when well defined. Engineering is a well-defined body of knowledge that has applications in numerous domains, but is able to grow and develop as a body of knowledge in order to contribute to the greater PBOK. Advances made in the OE then take the form of curriculum, professional journals, and regular credentialing as the means of using the skill and knowledge gained in the OE to continually improve.

A student that attends the school of engineering at the University of Michigan (UM) takes a number of electives to achieve a degree. However, in order to complete the major course of study for engineering there are only 12 courses to account for the 45 credit hours. The Military Academy at West Point in comparison to UM offers the

³⁸ Ibid., 28.

engineering major course of study through 16 courses. Each major requires additional content with the degree to frame the courses of study toward a more specialized curriculum in other areas through additional course elective requirements. At the core of the degree is the defined amount of courses required to complete undergraduate study through 12 to 16 courses. This is accomplished over the course of four years of resident attendance.

The discipline can then be separated into 12 to 16 distinct courses that comprise a degree in beginning in BOLC, and finishing during or upon arrival to the company grade advanced course. The option of focusing the overall material toward a degree in the joint function could offer additional savings in JPME delivered earlier in the officer's career timeline and effort expended in PME overall. The figure below is an illustration of how the degree could be separated. Each course would appear separate from the previous course or could build upon the knowledge gained from other courses to develop a higher level of proficiency.

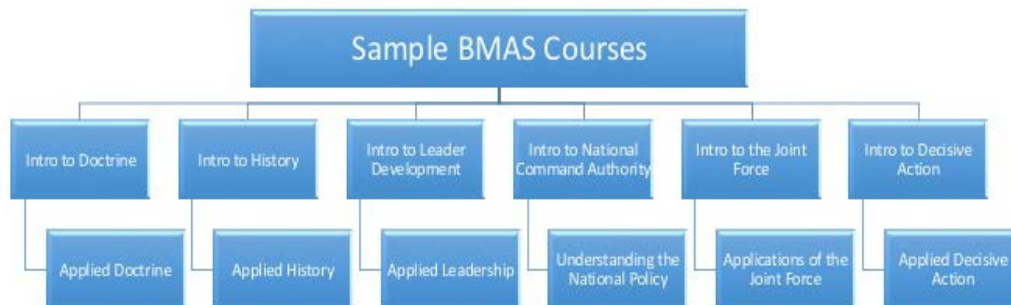


Figure 4. Sample BMAS Course Layout

Source: Created by Author.

The first half of the degree would be the foundational block of education for the branch, and the second half would be the opportunity to focus on a warfighting function. Officers will transfer credits earned from accredited institutions to proponent schools and have a foundation to build upon for the remaining courses required for the BMAS in a basic branch education and the subsequent functional capability.

The second half of the degree, if offered at the grade of captain through an advanced course, would complete the BMAS and build the discipline toward the graduate level application of a warfighting function. In theory, there would be more time in the career to focus on application and mastery, and continue to support a Masters of Military Arts and Science (MMAS) in the warfighting function. Built on a foundation of education that establishes individual development into a deliberate action to educate and credential leaders, the field grade officer MMAS program through CGSC would remain the standard for developing the operational and strategic leaders the Army requires. The flag officer level of education through the U.S. Army War College could then offer the opportunity for a Doctorate in Mission Command and Strategic Studies.

The life-long learning commitment by the Army University should begin with the establishment of all school functions needed to produce a bachelor's degree and connect Soldiers to the University. After arrival to the Basic Officer Leader Course, leaders should be enrolled in a school or proponent specific personnel management system. Each leader given a login to access their school records and even participate in online courseware. This could be described as admission and registration for the school. The U.S. Army Infantry or Ordnance school, for example, would process and receive the new students. They would remain as students on the local school system unless transferring to

another school for PME. Once enrolled into any of the schools under the Army University system, student records and development goals are more easily understood and guided by mentors, the senior leadership, and proponent leaders.

Do gaps exist in current educational doctrine for the officer to continue the educational process? In 2014, Jennifer Dembeck published her MMAS as a study of JPME for logistics officers. A key research conclusion was the integration of joint education earlier in the leader development process.³⁹ The use of the BMAS allows for the introduction of joint concepts at earlier points in the PME by pursuing an educational approach. In deciding what mix of courses a degree consists of, the Center of Excellence could program any one of the 16 electives to address JPME as identified by Major Dembeck. Overall, there is too much information required to teach JPME in one course of study, and it must be a part of the instruction across many courses of study.

The alternative to teaching JPME earlier in the educational development of officers is to withhold training required to operate in the joint environment until the officer attends JPME through CGSC. This would be a “status quo” solution. However, as cost effective as this might seem, this delay is too late in the officer’s education timeline due to the definition of the changing OE. Leaders are operating in environments that require a joint approach and a level of agility that comes through education and training, not training alone. Leadership and educational development requires the benefits of training to accomplish many of the objectives of a long term process. The answers to

³⁹ Dembeck.

questions of how to build leaders that are adaptable and agile will not be found through the over simplification and reductionist approaches of training alone.

Analysis of Organization and Personnel

The AOC states the capabilities needed to meet the challenges of the unknown. When dealing with ambiguity, foundational knowledge is critical and the keys to success are the known aspects of the environment that a leader can acquire through education. Further analysis concluded that personnel and organizational solutions can be addressed in two reasons that support a BMAS: the possible future requirements (operational context) and the capability needed to address future requirements (how future Army forces will operate). Both of which are impactful toward the future OE and will have a direct influence on the Army forces developed for future requirements. Future Army organizations require a force prepared to address, “increased velocity and momentum of human interaction and events, potential for overmatch, proliferation of weapons of mass destruction, spread of advanced cyberspace and counter-space capabilities, and demographics and operations among populations, in cities, and in complex terrain.”⁴⁰

These are the characteristics that need to be understood and addressed by the Army as foundational requirements moving forward. The AOC was developed to transition the broad concept of the Army into functional concepts for design and capability development; however, the space which remained was the manner in which the individual would be required to change. This idea is further codified in the concept of the

⁴⁰ U.S. Army Training and Doctrine Command. TRADOC Pamphlet 525-3-1, *US Army Operating Concept*, 9.

human dimension. The Human Dimension Concept, while serving to elaborate on the AOC as a strategic document, is unclear in the way that it discusses key topics. The human dimension covers the Force 2025 and beyond, a perspective of the force as it develops in the future, and the manner in which the individual will be expected to meet the challenges in the operational context. “Force 2025 and beyond” is a force modernization approach that includes the near, mid, and far term goals to bring about fundamental change. Key to the initial success of the human dimension is the investment in the near-term (2014-2020). The near term as the investment priority focuses on the individual, and therefore, it also focuses the Army to develop the capability of personnel and organizations through leader development.⁴¹

The future Army will be leaner and must improve to be a more lethal, agile and intelligent force. The operational context described in the human dimension is nested with the context listed in the AOC. The concept helps to narrow the individual requirement to focus on the squad as the cornerstone of Army capability. In the future, squad members will require enhanced capabilities in the cognitive, physical, and social components of the human dimension. The cognitive component is directly affected by education. “The cognitive component is measured in various ways such as intelligence and aptitude tests. It is a key contributor to adaptability, and it supports learning, critical thinking, and rapid, effective decision making in the institutional and operational Army. The cognitive component includes initiatives to accelerate learning and compress the

⁴¹ U.S. Army Training and Doctrine Command, TRADOC Pam 525-3-7, *U.S. Army Human Dimension Concept* (Fort Eustis, VA: U.S. Army Training and Doctrine Command, 21 May 2014), 6.

time it takes to accumulate experiential competence.”⁴² The human dimension concept describes the product of capability development in the institutional domain required to meet the challenges of the future OE. Further development of the human dimension leads to three outcomes; optimized job performance, optimized holistic health and fitness, and a maximized Army professional.⁴³

The Army requires a defined process to deliver the product or outcome of a learner centric environment capable of assessing, integrating, and synchronizing its educational policies, programs, and initiatives. The human dimension does not adequately describe the process required to achieve these outcomes. The assumption is that the discretion is given to subordinate TRADOC commands to develop the processes that produce these outcomes. The implication of the human dimension as the starting place or the guide for subordinate organizations, further described as Centers of Excellence (COE), is to draw from the concept to develop the needs of a proponent at the appropriate level.

The BMAS impacts the organization and personnel domains. A degree in a body of knowledge would have to be accredited in order to provide certification. The bachelor’s degree offered through COEs would require additional personnel to certify the degree and maintain the records of personnel receiving degrees. In order to offer the MMAS through CGSC there are two key functions required, the Registrar’s office and the Graduate Degree Program Office. The Registrar is used to manage the diverse

⁴² U.S. Army Training and Doctrine Command. TRADOC Pam 525-3-7, *U.S. Army Human Dimension Concept*, 12.

⁴³ Ibid.

electives and courses of study offered for the student body, and the graduate degree program provides the oversight of the level of education offered through the MMAS and supporting departments. An adequately staffed undergraduate degree program office and registrar office to support the new requirements for degrees offered would be an addition to the COE to offer the BMAS.

Centers of Excellence have a registrar office to manage the diverse collection of courses offered across the student body, but would require a policy change to establish the degree and additional personnel to address the transition to the BMAS. The undergraduate degree program office does not exist and would require personnel and organizational consideration. The growth of the registrar office is the most appropriate to support the initial operations of the BMAS. To support this growth in the short term, personnel from supporting sections could be resourced or even contracted for the short term. Many COEs and Army schools have transitioned to the use of online courseware delivery for a blended learning environment. This capability could be used as an enabler to support the implementation of the BMAS by the COE and reduce the time needed to deliver the curriculum.

The Army process for developing education is found in TRADOC Pam 350-70-7, The Army Educational Processes. Other supporting TRADOC regulations and pamphlets to develop the processes needed for the learning environment were reviewed. In order to develop capability in a domain, based on constraints of time, to affect change in the human dimension you need to deliver the right skills and knowledge. There are additions needed in order to support transitions from the operating concept to the human dimension. Functional concepts are essential concepts that should be developed as a more

deliberate focus and expound on the knowledge and skill required in order to apply to the human dimension. These are the opportunities for the COEs to define the leadership and educational goals within the warfighting function.

Analysis of Training

What is the product of PME? For most Army officers at the company grade, the result of PME is a certificate of completion. Whether that is the officer basic course or captain's career course, the result is the same in that you attend a course to build and reach an identified skill, knowledge, or learning outcome. Regardless of the function or branch, the Human Dimension concept receives the fidelity that it needs in the Army Pamphlet for commissioned officer development, DA Pam 600-3. If the human dimension is the guidance, then the DA Pam is the road map designed to give the waypoints in the career. In order to compile functional and branch considerations, the Army requires proponents of these areas to refine the positional experience and the skills required at each level. Special attention is paid to the manner in which the career is designed as to avoid too much specificity. The DA Pam gives the framework for the officer to have an opportunity at the experiences and the performance of those skills to develop into a leader of the future.

The Army Profession, ADRP 1, details the character and competence of the officer to transition from the timelines listed in the DA Pam. The value of the Army Profession is in the discussion of the character to adapt to circumstances and the competence through military expertise required of the professional. Where the human dimension concept listed the required leader capabilities, the Army Profession discusses the formative process of the leader to realize the context of the profession and further

visualize the approach required to lead and implement those capabilities. The character of the Army Profession is the description of where the leader operates from the moral and ethical perspective. The foundational documents lead to the implementation of personnel policy within the organization. Combined DA Pam 600-3 and the Army Profession define the requirements of the institutional domain to effect the operational domain of the officer.

With the establishment of the Army University in 2015 and the publication of the Strategic Business plan, the expectation is that the methodology of how to develop the desired capabilities in the individual and the organization will be further codified. The strategic business plan addresses the goals and the intent of the system as it continues to evolve. This is a critical moment for the newly formed organization to ensure the message communicated is clear and effective. The Army University is established and the relationship that it will have with other institutions is proposed. The policies moving forward should then address how the university is going to meet the objectives; ends, ways, and means used to outline the plan.

Is there some product of the university system not mentioned in this plan that will enable these outcomes? If so, it is only mentioned in the terms of the skills required from the development process. This is where the discussion of the product of the Army University begins by discussing the parts that have yet to be defined for the development of the future leaders of the Army. The Army University should have a policy to develop leaders to perform in their next assignment and duty position as a valued member of the team. Moreover, we are going to build leaders in a manner consistent with a strategic purpose and a mind for the future leader as the goal. The plan of the university should

then include the outcome of education, not purely training, to certify the leader in the PBOK.

Analysis of Materiel and Facilities

The analysis of the literature to implement the BMAS does not indicate the requirement for materiel or facilities to develop the capability. The requirement for resources in a fiscally constrained environment would indicate an additional cost for the degree development. The institutions currently exist to provide curriculum and the opportunity to execute the education of the BMAS through the COE. This does not eliminate the possibility that the BMAS could contribute additional capability requirements in the future as the educational model matures. However, this study is limited in the scope of quantifying the need to fully develop the BMAS and the personnel required. In proposing the use of existing curriculum as the basis for the courses needed to support the conferral of degree, the cost for implementation would be less than if there were no existing curriculum. Therefore, no new facilities or materiel would be required to meet the development of capability in the near term.

Analysis of Validity of the BMAS

The DOTMLPF analysis for the BMAS as a solution indicates that it closes a capability gap, but is the BMAS a valid solution for that capability gap? The BMAS meets many aspects of validity according to the Joint Operational Planning publication, JP 5-0, definition of validity. The BMAS solution is adequate, distinguishable, and complete as a solution for PME. The struggle for validity comes in the analysis of the feasibility and acceptability of the solution for PME. In order to pass the test of validity a

course of action must meet all five tests of feasible, acceptable, suitable (adequate), distinguishable and complete.⁴⁴ If the proposal does not meet any of the five, according to JP 5-o, the course of action is invalid. This validity analysis reviews the previous DOTMLPF results and determines whether the BMAS proposal should continue as a solution, while placing a perspective on the development of the degree through the lens of stakeholders of the PBOK.

Suitable, Distinguishable and Complete

Is the BMAS suitable, distinguishable and complete? The aspects of validity for the BMAS solution that were addressed and pre-determined to pass were those of suitable, distinguishable and complete. An action is determined to be suitable when it can accomplish the mission within the commander's guidance.⁴⁵ The BMAS as the solution to structure officer PME is valid because it meets and exceeds the learning objectives of the current approach. This is a suitable solution for the requirement to also educate the officer during the initial developmental time. The officer has the potential to learn and educate others to a higher academic standard. The application of the BMAS is suitable because it achieves the higher commander's guidance and intent to develop an adaptive and agile force. In this case, the guidance is not only that of the operational commander with the expectation of job performance, but also the leadership within the institutional domain.

⁴⁴ U.S. Joint Chiefs of Staff, Joint Publication 5-0, *Joint Operation Planning* (Washington, DC: Government Printing Office, 11 August 2011), IV-25.

⁴⁵ Ibid., IV-24, 15a.

The BMAS is distinguishable from the current educational process of PME, in that it is sufficiently different from other actions. The current training certification approach of completing only the training required for the next assignment limits the professional from the education that can be gained from a broad study. The BMAS adds the breadth and depth to the PBOK that is not currently available. The reasons for restricting the level of training are a result of the money spent to train the officer. If the training is not required for the position, then the additional unit cost burden is not required for their development. This would imply that leaders only need to receive training to improve if they are in the right place at the right time, or be better trained if they are in better units. The BMAS addresses this by broadening the educational goals of all officers by addressing them in PME and not fully burdening that cost to a single unit. The purpose of educating leaders is to enable them to educate others around them to achieve common goals and achieve success at a greater rate. They receive education purely for the purpose of self-development. It is in the best interest of the Army to ensure that all leaders are prepared for the challenges of the OE.

The BMAS is complete as a leadership and educational solution to develop leaders because it answers the questions of “who, what, where, when, how, and why.”⁴⁶ The BMAS is a foundational block of education taught to officers after commissioning at the basic branch course. No changes are required to address the manner in which the curriculum is delivered, as current policy is representative of how the material should be delivered in a comparable undergraduate course. Army changes from 2012 to 2015 to

⁴⁶ U.S. Joint Chiefs of Staff, Joint Publication 5-0, *Joint Operation Planning*, IV-24, 15e.

redesign the manner in which Soldiers are educated, meets all of the standards of accreditation and will continue under this new standard of education as well. The answer to why the BMAS is complete as a solution is the standard of education should increase not decrease. In other words, the educational level of entry level officers is at the undergraduate level, and should remain at that level for the student and the faculty to a measureable standard. If we can accredit to that standard as an institution and as a body of knowledge, then the product of that institution can be more consistent and sustainable.

The BMAS is suitable, distinguishable and complete as a solution for education to replace the current certification standard of PME. PME is currently training based and has grown to include the outcomes of the learning environment. This new standard allows the professional to grow at a more consistent rate throughout their career and the PBOK to leverage all of the educational objectives to grow the understanding of the officer corps.

Feasible and Acceptable

Is the BMAS solution feasible and acceptable? These two criteria truly test the validity of the BMAS as a solution and are the most difficult to fully answer. The feasibility of the BMAS as a solution is measured in how it is able to accomplish the mission of education within the established time, space, and resource limitations.⁴⁷ While the BMAS is not a one for one solution, it does offer the opportunity to trade off the requirements of training that have continued to grow over the years. In a more formalized

⁴⁷ U.S. Joint Chiefs of Staff, Joint Publication 5-0, *Joint Operation Planning*, IV-24, 15b.

approach to education, the BMAS would allow leader education to be considered over the course of their career. There is no reason to over compartmentalize or force all training into a single opportunity. Training in this manner is a hasty attempt to train once, and then expect immediate results in the OE. The BMAS can be supported by training opportunities after education. With all educational outcomes defined and developed through the BMAS, training can be sharpened to offer the deliberate and relevant training that leaders need in PME.

One example is the CGSC elective period as an opportunity to train the topics that are relevant to the officer for both personally and professional growth. All BMAS curriculum could include additional training courses to focus on the officer's interest, or an exercise that allows the student to implement the education gained. This coupled with the requirement to apply the education in the OE from the rank of lieutenant to captain prior to returning for the captain's career course would make the BMAS a highly desired degree to credential the individual and support the PBOK. It is this approach of using the same time, space and resources that would achieve the criteria of feasible for the BMAS.

The criteria of acceptable is the final and the most difficult test for the BMAS to be proven valid. Acceptability must balance the BMAS cost and the risk with the advantages that could be gained.⁴⁸ The two questions that embody this test of validity are defined in "how much is this going to cost?" and "why credential a bachelor's degree when the cohort group already has that level of education?" The cost of the BMAS will be similar to that of the cost burdened by CGSC to produce the MMAS. The added cost

⁴⁸ Ibid., IV-24, 15c.

will appear in the form of the degree program staff salary and the added organizational structure. The change from the current process which offers an opportunity for a bill payer to this added cost. In most cases the cost of education will directly replace the cost of training, a validated requirement for leader development.

The next cost would come in the form of the faculty to maintain the degree program. Similar to the manner in which instructors are selected for West Point, the faculty must possess a master's degree or a degree in the specified education area. Whether the COE would have to pay for the education of those that instruct or if they would be chosen from officers that complete an MMAS through CGSC is a decision of the COE that manages that PBOK. However, the personnel chosen to educate the leaders of the Army should meet the highest standards of educational excellence. If we intend to have a highly productive force, then the leaders that receive that education require a higher standard for the personnel that educate them.

Officers are required to complete their baccalaureate level education prior to receiving a commission in the Army. Why should we require them to complete another undergraduate degree? The answer is that leaders should be educated at the level of education that we expect them to perform in order to produce the best leaders. Current curriculum covers a diverse amount of information at the basic officer course. Many officers are exposed to the educational outcomes through training performed in their commissioning source without being individually evaluated, and believe that they will get the opportunity to learn it again at the basic course. This is a lost opportunity in the training and educational domain and a failure of the profession.

The undergraduate learning environment is more rigorous than the group training environment, which is more focused on the group completing the event. If it is a bachelor's degree that is being achieved, then the journey toward the overall completion can be more focused to individual success in a course. We can even offer the individual student the opportunity to retake a single course as opposed to restarting the entire course. We will produce an officer with more expertise and with a possible cost savings in students held-over for not completing the course of study to standard. The cost to the Army of sending officers into the operational environment without the education they need is higher. The BMAS raises the standard of education.

Analysis of Stakeholders

Whose interests should be taken into account for the BMAS solution? The three development domains are the structure to define the stakeholders of the BMAS through the operational domain, the institutional domain, or the self-development domain. Determining who is the focus for each of those domains will ultimately determine who the stakeholder is and complete the list of those impacted by the solution.

The focus of the operational domain is the first assignment and the unit. The operational domain stakeholders are the different jobs and assignments that the officer could fill. Those positions have been defined through requirements for the officer to perform a set of tasks or possess a set of skills and knowledge. Through skills and knowledge, the officer will support the overall mission of the unit and the Army, but will be asked to perform in an incredibly diverse set of conditions. The conditions of each assignment are so different that officers cannot be trained to fully perform to a defined standard. It is impossible to train for every situation or set of conditions that will impact

the leader. In order to achieve the educational outcome through training, the conditions of a task are generalized. It is in the over generalization that the officer's training is ineffective. Limited education is given to the foundational doctrine or types of units that the officer could serve or will serve in favor of the task being trained. The result is that the operational domain receives a leader that still requires training. Operational units should be more interested in the education of the officers they receive. In a fiscally constrained environment every member of the unit must be ready to perform at a high level.

In the institutional domain, the stakeholders of the BMAS are the Combined Arms Command (CAC) and the COEs. CAC is the lead for the development of education and training solutions, and as the higher headquarters of the Army University and Centers of Excellence, are responsible for the educational policies that impact subordinate organizations. It is then essential to clarify that the BMAS degree proposal does not require CAC or the Army University to produce the degree programs. By using the BMAS, the Army University is the connection for the COEs to reach back to CAC and share the commander's guidance for the strategic objectives of the human dimension to educate leaders.

The COEs will have more involvement as a stakeholder in the BMAS. The production of curriculum to create the BMAS and the personnel and organizational adjustments needed to achieve the degree program are a few of the biggest changes. A change in the manner that the COE approaches training development is required. The balance of training and education is required, and not the elimination of training from PME. The COE must train for certainty in the conditions that are known and educate for

uncertainty in the conditions that cannot be known in the OE. The opportunity to pursue non-resident training as the means to increase proficiency is more relevant now.

The stakeholder for the BMAS in the self-development domain is the leader and the Soldiers led by that leader. The leader is asked to perform a wide range of tasks in the future OE, while adapting to change and ambiguity. When and how will the leaders of the future be able to meet these demands? PME is the opportunity to receive the development and the clear expectations of what the Army is going to ask of the officer. Training can support education, but not replace it completely. The leader must receive the education to understand the skills of the Soldiers assigned to the unit. Soldiers expect leaders to understand skills that they provide so that they are used properly and maintained. An under-educated leader places a burden on the NCO to perform his job of executing the mission assigned and training the officer that is placed in charge of him. An agile and adaptive leader should only use the experience of the NCO to understand the unit and not rely on him to carry the burden of leadership. Everyone is a stakeholder in the BMAS in some manner, and whether direct or indirect the Army holistically benefits from the BMAS education.

Operational Approach

The Army University can define the role of all other institutions of learning and the outcomes of their educational programs through the BMAS. A more effective solution is needed to make use of learning opportunities. The Army University system should produce degrees to define the level of the PBOK demonstrated and the skills needed for the OE. An officer must perform at the level of an undergraduate education to receive a commission in the Army. The education that an officer should receive following

commissioning should be designed, developed, and implemented at the undergraduate level. This educational outcome is in contrast to the current training approach of PME which trains tasks and skills to broad outcomes.

The Army University can establish a new defined level of education that can impact other cohort groups. This operational approach can then be applied to all cohort groups through degrees such as an Associate's degree through the Advanced Leader Course and the Senior Leader Course for NCOs, or a warrant officer completing their undergraduate degree through the warrant officer basic and advanced course. The opportunities for growth using this operational approach are vast. The degree and credentialing opportunities would exist by titling and conferring those degrees specified to the technical expertise desired as required for the level at which they perform.

The most beneficial outcome of an operational approach to develop degrees in the Army University system is the function of standardizing the method for developing instructors and those that would facilitate the educational process. No longer would the minimum requirement to teach be a training program. The learning environment has to be as agile as the leaders that it is trying to produce. Whether the instruction is given through lecture or facilitated in an experiential learning environment, the consistent outcome of a military leader that is proficient in technical and tactical skills and knowledge from the branch and function is essential in order to continue into the operational and strategic levels of war. At the higher levels of leadership, the knowledge and skills needed become even more broad and the time devoted to growing those initial skills does not exist.

Closing the Gap

Could training remain as a means to fill the gaps of leadership and education? The simple answer is no. The current learning model, adopted in 2011, focuses more toward the art of facilitating discussion than instruction; encouraging Soldiers and leaders to increase their level of education using experiences and allowing the soldiers to achieve an outcome in the learning environment. This is not an adequate approach for the training environment, but is for the educational environment. Our learning model supports education more than training, but we must determine if education or training of our leaders is the top priority. If education is the priority, we must educate our leaders to the advantages of a mind that can adapt to change.

Training development methodologies place a great amount of emphasis on the task being performed in order to develop the training objectives and assessments. The next step is to assess the knowledge and skill of those tasks and objectives to create the process of learning for the learner. This is the process of conditioning for the student and the instructor in which the material never seems to change, however the manner in which it is executed is continually manipulated in order to find greater efficiency. This can lead to inconsistencies in training for the student and for the instructor as well.

Educational development remains focused on the body of knowledge and the growth of that body of knowledge. Educational development requires the committed involvement of those committed to shaping the future. The reason this definition of training and education is relevant is that the learning environment at the earliest level is being mortgaged by those that do not contribute to the further development of the body of knowledge.

The educational experience within the Army has to continue to mature on a path with a clear destination that does not continue to change with the focus of a change of command. A military education must become one of a discipline to build a professional body of knowledge to further the study of our intellectual capability within our leadership. The discipline is not just the collection of skills or tasks to learn in random progression from one job to the next in a career, but can then be defined in the body of knowledge needed to operate from the tactical to the strategic level of war.

The speed of change in the operational environment impacts training and educational development in the institution, in a permanent position to keep pace. Training must be our means to focus the educated officer on the environment and not become the distraction in an attempt to replace educating. The starting point for officer education should not be in the eleventh year of service at the Command and General Staff College, but at the officer basic course and every learning opportunity within the career.

Each proponent school has the capability to develop curriculum based on their body of knowledge. In most cases there is more knowledge available through the branch school than there is time to learn. But where a training course of five months would be focused on the process of the individual progressing toward completion; a degree would offer the opportunity to divide the opportunity into many smaller courses which enable a higher level of proficiency. Proponents can grow and shape the educational environment from the input of those that are able to reinvest their knowledge. Completion of the required bachelor's degree could be a research paper from the perspective of a newly accessed officer on a proponent specific topic. A return on the investment of education in

a company grade officer corps that is immediate, through a demonstrated capacity to learn.

The military is a profession, and the manner in which we educate our professionals must reflect the capability of the professional. The Army University is in the best position to continue this capability development. The Army University requires an undergraduate program for company grade leaders. A graduate level program exists to assist the development of subordinate programs in an undergraduate study. The professional grade of our company grade leaders will continue to improve through education.

Conclusion

A DOTMLPF analysis of the BMAS and a methodology to analyze the validity of the BMAS were the most critical in reaching a conclusion. The development of individual educational goals can be an enabler to the development of the capabilities the Army requires to operate in the future, and can be leveraged in a decisive manner by the PBOK. The methods used to develop and prepare those individuals are intertwined in the combination of education and training. The conclusion of the doctrinal analysis is that a gap exists between the desire for an educational outcome through an application of training. Assignment in a key developmental or broadening position in the career is the opportunity to gain perspective and apply the education gained in the learning process. While leaders will be placed in assignments that require them to apply the skills and knowledge gained, the experience is the opportunity to reframe the understanding of the leader and create meaning. The assignment is not the ideal opportunity for introductory skills and knowledge. Requisite leader knowledge for all possible applications must

become the objective of the educational environment. The application of knowledge and skill, viewed as the requisite ability of the leader, learned gradually over time in an assignment, cannot always be the case. The combination of the educational and training objectives, and the certification of those objectives is the most desirable in the development of agile and adaptive leaders.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The analysis of the baccalaureate level of education supports an Army University approach to produce a bachelor's degree due to gaps in education. For the purpose of removing the gap, the reasoning is supported in a proponent certification that exists in a product of the university system that is not well defined for the individual student and faculty. The university system exists as the focus for this discussion to require subordinate commands to develop a product such as an associate or bachelor's degree. The current system of schools, located by branch, function, and proponent, are grouped for the development of capability across the DOTMLPF domains. The addition of the Army University and a defined relationship between the subordinate schools enables the development of capability to shift to the individual, the human dimension. The Army University can offer proponent schools guidance and focus toward degree programs, and provide oversight during resource constrained times.

Change the Army Approach to PME

The study performed for the BMAS determined that CAC, through the Army University, should respond to a shortfall in the development of leadership with more education than training. The conferral of a degree at the bachelor's level addresses three facets of the capability gap by defining the level of education and certification of the company grade officer, defining professional military education as a discipline of study at the branch and functional level for the PBOK, and developing leaders in a strategic

manner to function in the warfighting required for the OE. For the company grade officer, the immediate application of their educational knowledge would be at the tactical or operational levels of war. The development and conferral of a degree would facilitate a long term improvement in the officer corps, and a holistic approach to build a strategic leader; one who is agile and adaptive.

Issues and Recommendations

The university system can define the education foundation and serve as the certifying body for the company grade officer by conferring a degree. The degree demonstrates an undergraduate level of capacity to learn and will allow the individual leader to build on a body of knowledge for each proponent. Developing officer education is different from developing officer training in that the officer is expected to demonstrate the level of knowledge gained. Achieving a high level of understanding over a vast amount of information in such a short time, while training for the next mission, is not a realistic outcome. The officer must receive education and be able to apply that education toward training.

The issues uncovered by the BMAS center around the acceptability and feasibility of PME change. Is the cost of the BMAS and the risk of changing to the BMAS as the level of certification weighed with the advantages that could be gained an acceptable action for leader development?⁴⁹ The BMAS is acceptable as a solution. The BMAS raises the expected level of education for the student/officer, increases the development

⁴⁹ U.S. Joint Chiefs of Staff, Joint Publication 5-0, *Joint Operation Planning*, IV-24, 15c.

of the faculty that produces and executes the curriculum, focuses the learning environment to remain relevant, and uses the existing curriculum as the foundation. The BMAS is not an effort to replace officer education prior to commissioning, but to focus the education following commissioning. A clear path of the PBOK for the officer to explore through their career.

The risk of accepting this change is assumed by the legacy schools of TRADOC at the branch proponent. Through this process of educational growth, the reduction of courses that teach learning objectives that are duplicated at other institutions is very high. There is a risk that the Army will discover that there are many functions that are no longer required. This would be a difficult assessment for some to accept from the historical perspective, but could be attributed to the natural order of adaptation within the military reforming itself to meet the challenges of the OE.

There will be a cost of accepting the change of the BMAS, but it is an acceptable cost for the needed growth of the force. The initial staff cost for the degree program and the changes to the registrar offices will lead to an increased cost in faculty salaries that execute PME. These professors will be trained to be branch specific, but will be able to deliver educational outcomes with a master's level proficiency. I recommend that those officers come from the the MMAS program at CGSC and with assistance from contract employees. CGSC could also offer an optional track for a master's in education with a concentration in the functional branch to support the follow on assignment. These tracks could even become nominations by Human Resources Command (HRC) to find the right type of instructor. Those COEs that offer the BMAS could also identify and pay for the

education of those selectees to attend a master's program of their choice with a utilization assignment after graduation.

The development of the BMAS raises the level of academics at the COE and builds the military profession, but does not replace other disciplines such as engineering. The BMAS is an opportunity to separate the training and education of the PME process by clearly defining the educational development of the officer. Discerning the art and science of military service is clouded by the training of the skills needed to perform the next job. Future military leaders need to have the agility offered by the BMAS to work at many different levels and serve in a variety of positions.

Ultimately, the answer of acceptability was confirmed as valid. The cost is greater for the Army not to pursue the solution of expanding education over training earlier in a professional career. Training is the quick fix, a one-size fits all solution, that has made the Army successful in short durations, decisive operations, and limited wars. Persistent conflict in the range of military operations requires a significant amount of long term investment in education to enable adaptability and agility. The future OE is not as defined as it once was, and the leaders that will fight those wars will need to be prepared.

The final issue of feasibility of the BMAS as a solution was measured by how it is able to accomplish the mission of education within the established time, space, and resource limitations.⁵⁰ The BMAS directly addresses education to accomplish the mission of education. The issues of time, space, and resources will remain a concern as this is how we execute the process. The plan is to view education as the period of time from

⁵⁰ U.S. Joint Chiefs of Staff, Joint Publication 5-0, *Joint Operation Planning*, IV-24, 15b.

commissioning to promotion to major as the opportunity to grow and build the foundation. Once promoted to major, there is an expectation of tactical competence at the field grade level. The expectation of tactical proficiency and knowledge is uneven and inconsistent without a clear educational path of all courses and skills needed to promote.

The time from commissioning until the promotion to captain is the most critical in the career path. This is the time where most of the knowledge gained will shape the remaining years of the career. This turbulent time is marked with great diversity of assignments which will mean that some leaders will experience a career of challenge and others will serve in areas where they are required to seek more self-development. The space that the officer has to develop while receiving on-the-job training can also influence the outcome of the educational experience. The BMAS is the tool to shape the journey of the officer and identify the gaps of the officer's self-development and how that development is shaped by their assignments.

The BMAS is a feasible solution for the future of education. There are challenges and risks to implementation, but every proposal to include the current training solution comes with a cost. The result or the outcome of PME should command a greater focus for the dollars spent. The cost of PME change by adding the BMAS is very low in comparison to the cost of failure when leaders are forced to adapt to unforeseen changes in the OE.

Final Thoughts

At the start, I believed that the officer corps had a need to develop a higher level of professional excellence. I now believe that the Army as a whole can benefit from the progression toward this educational goal. I believe the establishment of the bachelor's

degree as a standard for education through the professional development of the Soldier is the foundational educational milestone for the leader at the tactical and operational levels of war. This approach to education to produce degrees has the potential to transcend all cohort groups and build the overall body of knowledge (see figure 5).

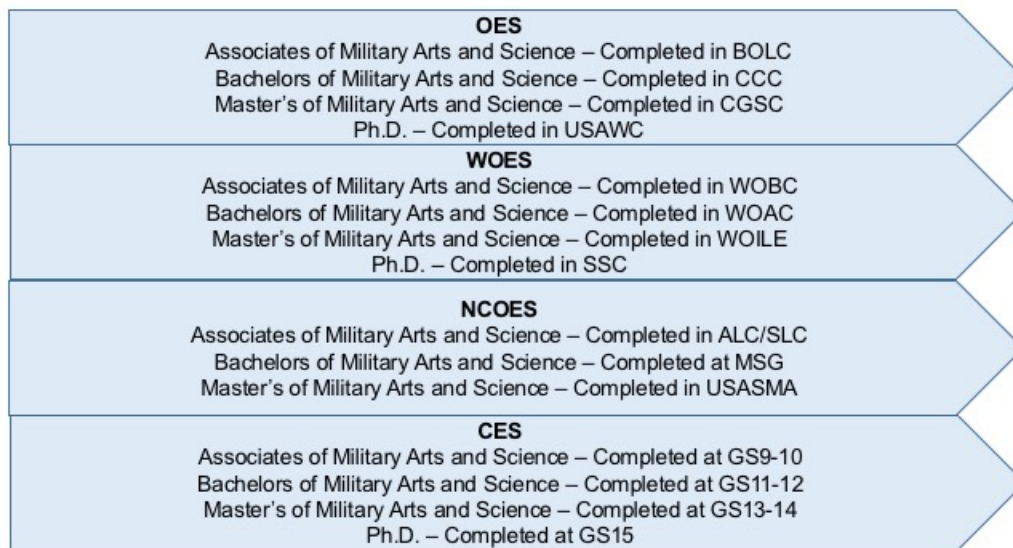


Figure 5. Cohort Educational Goals in PME

Source: Created by Author.

A military professional can apply a body of knowledge to new situations and become more agile than before. With a greater effectiveness in the leader development plan, the officer can grow the knowledge and the skills needed as opposed to the finite application of a skill and a knowledge learned to perform in a job. The shift to balance training toward education much sooner in the leader development is required to avoid running the risk of developing an officer that is at best marginalized, but at worst

irrelevant to the OE. We cannot simply train leaders to be agile and adaptive by adding new tasks to train. We cannot address an educational problem with a training solution by simply manipulating the curriculum. We must change the manner in which we develop leaders, not only to meet requirements of today's force, but to build the capability that they will need to be successful in the environment of the future.

BIBLIOGRAPHY

Books

- Betros, Lance. *Carved from Granite: West Point Since 1902*. College Station, TX: Texas A&M University Press, 2012.
- . *West Point: Two Centuries and Beyond*. College Station, TX: McWhiney Foundation Press, 2004.
- Brafman, Ori, and Rod A. Beckstrom. *The Starfish and the Spider, The Unstoppable Power of Leaderless Organizations*. New York, NY: Penguin Group, 2006.
- Clausewitz, Carl Von. *On War*. Edited and Translated by Michael Howard and Peter Paret. Chicago: Princeton U.P., 1984.
- Leonhard, Robert R. *Fighting by Minutes, Time and the Art of War*. Westport, CT: Praeger, 1994.

Government Documents

- Dembeck, Jennifer M. "A Critical Analysis of Joint Logistics Professional Military Education for Army Logisticians." Master's Thesis, Command and General Staff College, Fort Leavenworth, KS, 2014.
- Dye, Jason R., MAJ, USA. "Educating Captains for War: Deliberately Designing Professional Military Education." Monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 2015.
- Headquarters, Department of the Army. Army Doctrine Publication 7, *Training Units and Developing Leaders*. Washington, DC: HQ DA G3/5/7, 23 August 2012.
- . Army Doctrine Reference Publication 1, *The Army Profession*. Washington, DC: HQ DA G3/5/7, 14 June 2015.
- . Army Doctrine Reference Publication 3, *Unified Land Operations*. Washington, DC: HQ DA G3/5/7, 16 May 2012.
- . Army Regulation 350-1, *Army Training and Leader Development*. Washington, DC: HQ DA G3/5/7, 19 September 2014.
- . DA Pamphlet 350-58, *Army Leader Development Program*. Washington, DC: Department of the Army, 8 March 2013.

- . DA Pamphlet 600-3, *Commissioned Officer Professional Development and Career Management*. Washington, DC: Department of the Army, 3 December 2014.
- U.S. Army Training and Doctrine Command. *Army Leader Development Strategy (ALDS)*. Fort Eustis, VA: United States Army Training and Doctrine Command, 25 November 2009.
- . *Institutional Education and Training Reforms Study: Observations and Recommendations*. Fort Eustis, VA: U.S. Army Training and Doctrine Command, 8 August 2012.
- . *Strategic Business Plan for the Army University*. Fort Eustis, VA: United States Army Training and Doctrine Command, 16 March 2015.
- . TRADOC Regulation 10-5, *Organization and Functions U.S. Army Training and Doctrine Command*. Fort Eustis, VA: U.S. Army Training and Doctrine Command, 27 December 2013.
- . TRADOC Regulation 71-4, *Force Development: U.S. Army Training and Doctrine Command Standard Scenarios for Capabilities Development*. Fort Eustis, VA: U.S. Army Training and Doctrine Command, 12 February 2014.
- . TRADOC Regulation 350-36, *Training: Basic Officer Leader Training Policies and Administration*. Fort Eustis, VA: U.S. Army Training and Doctrine Command, 13 January 2014.
- . TRADOC Pamphlet 350-70-7, *Army Learning: Army Educational Processes*. Fort Eustis, VA: U.S. Army Training and Doctrine Command, 9 January 2013.
- . TRADOC Pamphlet 350-70-14, *Training: Training and Education Development in Support of the Institutional Domain*. Fort Eustis, VA: U.S. Army Training and Doctrine Command, 27 March 2015.
- . TRADOC Pamphlet 350-70-16, *Training: Army Training and Education Proponents*. Fort Eustis, VA: U.S. Army Training and Doctrine Command, 6 December 2011.
- . TRADOC Pamphlet 525-3-0, *Army Capstone Concept*. Fort Eustis, VA: United States Army Training and Doctrine Command, December 2012.
- . TRADOC Pamphlet 525-3-1, *US Army Operating Concept*. Fort Eustis, VA: United States Army Training and Doctrine Command, October 2014.
- . TRADOC Pamphlet 525-3-7, *U.S. Army Human Dimension Concept*. Fort Eustis, VA: U.S. Army Training and Doctrine Command, 21 May 2014.

- . TRADOC Pamphlet 525-8-2, *U.S. Army Learning Concept for 2015*. Fort Eustis, VA: U.S. Army Training and Doctrine Command, 6 June 2011.
- . TRADOC Pamphlet 525-8-3, *U.S. Army Training Concept 2012-2020*. Fort Eustis, VA: U.S. Army Training and Doctrine Command, 7 January 2011.
- Hearnsberger, Brian J., MAJ, USMC. “Marine Corps Cooperative Degree Program.” Master’s Thesis, Command and General Staff College, Fort Leavenworth, KS, 1995.
- Ozmer, Timothy L., MAJ, USA. “Army Leader Development Strategy: Developing Brigade Level Leaders through Balance, Emphasis and Approach.” Master’s Thesis, Command and General Staff College, Fort Leavenworth, KS, 2014.
- Tipton, Robert A. COL, USA. “Professional Military Education for the ‘Pentathlete’ of the Future.” US Army War College Strategic Research Project, Carlisle Barracks, PA, March 2006.
- U.S. Army, Chief of Staff. 2013 *Chief of Staff of the Army Leader Development Task Force Final Report*. Washington, DC: Chief of Staff, 14 June 2013.
- U.S. Government Accountability Office. *Joint Military Education: Actions Needed to Implement DOD Recommendations for Enhancing Leadership Development*. Washington, DC: U.S. GAO, October 2013.
- U.S. Joint Chiefs of Staff. *Capstone Concept for Joint Operations: Joint Force 2020*. Washington, DC: Joint Chiefs of Staff, 10 September 2012.
- . *Joint Education White Paper*. Washington, DC: Joint Chiefs of Staff, 16 July 2012.
- . *CJCS Vision for Joint Officer Development*. Washington, DC: Joint Chiefs of Staff, November 2005.
- . CJCSN 3500.01, *2015-2018 Chairman's Joint Training Guidance*. Washington, DC: Joint Chiefs of Staff 30 October 2014.
- . CJSI 1800.01E, *Officer Professional Military Education Policy*. Washington, DC: Joint Chiefs of Staff, 29 May 2015.
- . Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*. As amended through 15 June 2015. Washington, DC: Joint Chiefs of Staff, 8 November 2010.
- . Joint Publication 5-0, *Joint Operation Planning*. Washington, DC: Government Printing Office, 11 August 2011.

U.S. Joint Staff, Directorate for Joint Staff Development. “Minutes for the 10 February 2015 Military Education Coordination Council (MECC).” Washington, DC: Directorate for Joint Staff Development, March 2015.

U.S. Military Academy, Office of the Dean. *Class of 2016 Academic Program*. West Point, NY: Office of the Dean, February 2016

Other Sources

Cianciolo, Anna, Ph. D., and William R. Bickley, Ph. D. *Army Instructors to Army Facilitators - Practical Considerations*. Fort Benning, GA: U.S. Army Research Institute, Ft. Benning Research Unit, July 2011.

Coumbe, Arthur T. Dr. *Army Officer Development: Historical Context*. Carlisle Barracks, PA: U.S. Army War College, Strategic Studies Institute, April 2010.

———. *A History of the U.S. Army Officer Corps, 1900-1990*. Carlisle Barracks, PA: Strategic Studies Institute and U.S. Army War College Press, September 2014.

Crowley, James C., Michael G. Shanley, Jeff Rothenberg, and Jerry M. Sollinger. *Adapting the Army's Training and Leader Development Programs for Future Challenges*. Santa Monica, CA: RAND Corporation, Technical Report, 2013.

Department of Mechanical Engineering, University of Michigan. *Program Requirements*. Bachelor's Degree, 2016. Accessed 12 February 2016.
<http://me.engin.umich.edu/academics/ugsh/bachelors>

Fox, Amos. CGSC Student, Team 15B, Command and General Staff College. Personal discussion of educational development. Received by author via discussion 4 February 2016.

Higher Learning Commission (HLC), Board of Trustees. *Criteria for Accreditation*'. The Higher Learning Commission, August, 1992. Accessed 6 December 2015.
<http://policy.hlcommission.org/policies/criteria-for-accreditation.html>.

Herron, Sean, MAJ, USA. “The Army Profession: Ostrich or Phoenix.” *Military Review* (January-February 2004): 61-66.

Lewis, Michael S., LTC, USA. “Educating for Land Power.” Strategy Research Project, U.S. Army War College, Carlisle Barracks, PA, 2009.

Long, Kenneth E., D.M., Assistant Professor/Force Sustainment and Management, Department of Logistics and Resource Operations, Command and General Staff College. Received by author via discussion, 17 February 2016.

McMaster, H. R., LTG, Ph. D., USA. "Continuity and Change: The Army Operating Concept and Clear Thinking About the Future War." *Military Review* (March-April 2015): 6-21.

Merriam-Wester. "Education." 17 September 2015. Accessed 24 November 2015.
<http://www.merriam-webster.com/>.

Training and Doctrine Command, United States Army. "About TRADOC." 28 October 2014. Accessed 15 February 2016. <http://www.tradoc.army.mil/About.asp>

University of North Carolina at Chapel Hill. UNC Core. "Course List." Accessed 27 March 2016. <http://unccore.org/course-list/>.

U.S. Army Command and General Staff College. "MMAS Program Information." Fort Leavenworth, KS, 5 May 2015.